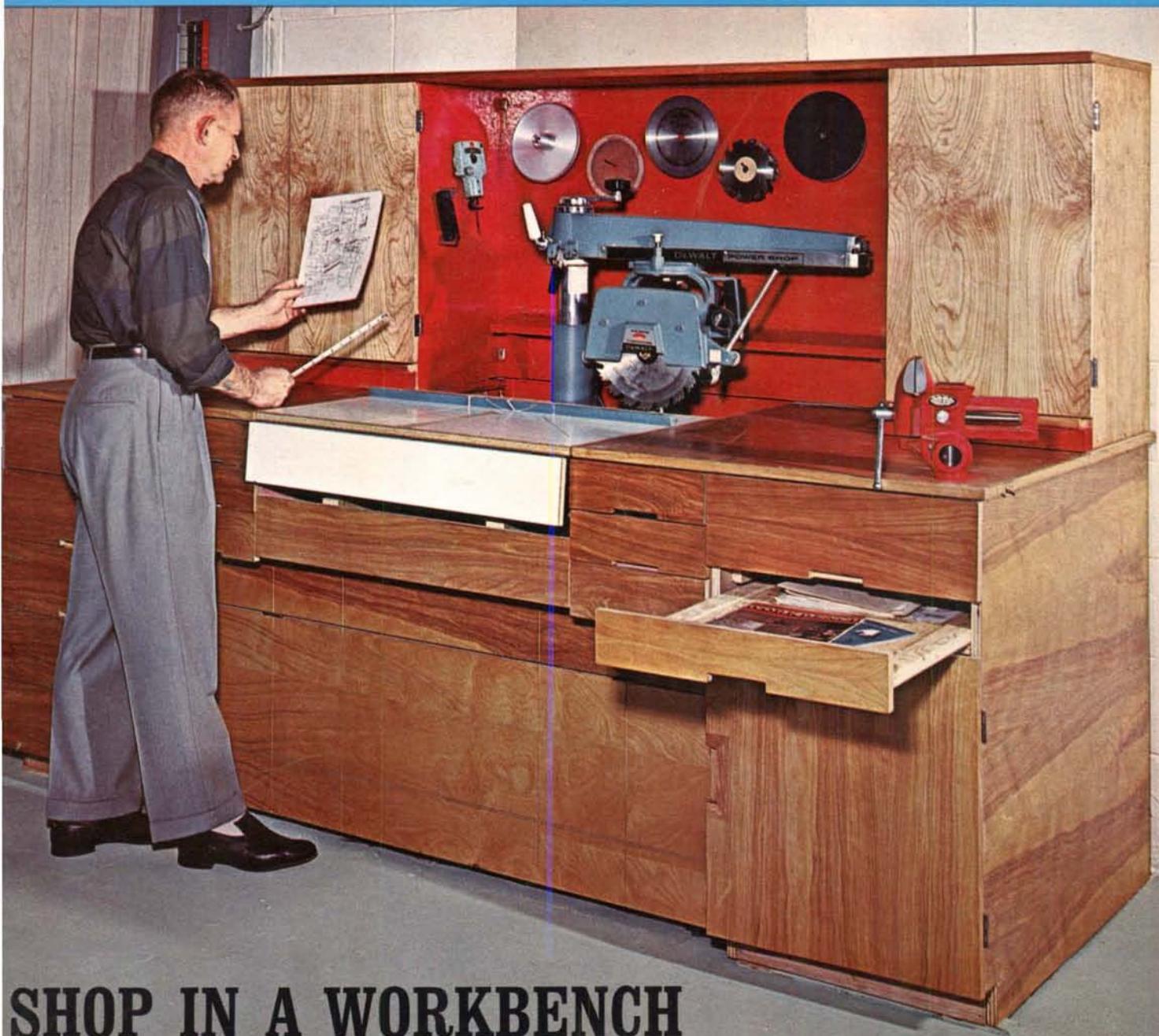


WORKBENCH

35c March-April, 1963

1CD



SHOP IN A WORKBENCH

Kit-Built Bandsaw

Work-Display Cabinet for Models

Colonial Speaker Cabinets

Renewing Kitchen Cabinets

140 Pages.. Many in Full Color



Just Out!

Rush coupon for NEW Catalog of Craftsman money saving values in

WOOD

**and Workshop Tools,
Materials & Equipment**

**Everything for the wood worker and his shop ...
rare imported and popular domestic woods ...
tools, hardware, equipment, supplies, mouldings,
veneers—America's most complete source!**

NEW!

*Stanley and other
Name Brand Power Tools
at DISCOUNT PRICES!*

NEW!

*More Complete Lines
of Lamp Parts and
Upholstery Supplies.*

NEW!

*Biggest Selections of
Turned Legs in Wood,
Metal... and Plastic!*

NEW!

*Mosaic Tile in Great
Variety of Colors, Types,
Sizes! New Tile Projects!*

Over 1,500 Items for the Workshop New! — improved type Glue Injector

Card Suit, Checkerboard
Fraternal Insignia Inlays.
Folding Leg Hardware.
Baby Crib Hardware.
Magnetic Hammers, Glue
Injectors, Other Tools.
Full line of Upholstering
Supplies.
Section on Archery and skiing.
Complete section in FULL
COLOR showing beautiful
wood inlays and colorful
bandings.
Finest Kiln Dried Domestic
Woods, Rare Imported Woods
... many available only
from Craftsman.

140 pages... packed with many more items and ideas
like these... send for your copy today!

Enlarged section of cabinet
hardware for every purpose.
Attractive embossed mouldings
and carved wood ornaments.
New Clock Kits and Hi-Fi
Cabinetry.
Metal legs in brushed brass and
black wrought iron; wrought
iron shelf dividers and other
useful items.
Big selection of lamp parts.
New line of Plastic furniture legs.
America's most complete selec-
tion of woodworking tools.
Money-making ideas to turn
your hobby into spare
time cash.

CRAFTSMAN SAVES YOU MONEY!

Send today for this amazing new catalog ... your complete wood-buying guide and workshop book. Craftsman is your best and most complete source of finest quality top grade kiln dried domestic and rare imported woods. Whether you need a single board or hundreds of board feet, choose your needs from the remarkable new Craftsman catalog. Includes beautiful new wood inlays (shown in natural color), bandings, matched plywood, embossed mouldings, carved modern and traditional ornaments, stock for wood carving projects, too! See the big new selection of tools, "hard-to-find" cabinet hardware, ornaments and woodworking equipment for both hobbyist and professional. This all new edition is packed with new wood projects and hundreds of valuable money-making ideas to help you earn welcome extra income from this interesting hobby. Rush COUPON below for your copy today. Enclose 25¢ to help pay mailing and handling costs. Write at once... your copy is waiting for you, now.

FULL COLOR REPRODUCTIONS OF MANY RARE WOODS

CRAFTSMAN
Wood Service Co.

2729 S. Mary St., Dept. L-3
Chicago 8, Illinois

Your
Catalog Is
Ready—
Mail Coupon Today!

CRAFTSMAN WOOD SERVICE CO., Dept. L-3
2729 South Mary Street, Chicago 8, Illinois

Rush giant new Catalog of Wood and Woodworking materials.
I enclose 25¢ to cover part of cost.

NAME.....

ADDRESS.....

CITY..... ZONE..... STATE.....

Get into...

PLASTIC LAMINATING AT HOME!



Make Up to \$5 an Hour by
our **MAGIC MAIL PLAN**...get
orders and cash from your mailman!

Here's the newest and most fascinating of all home-operated businesses. For the first time, a simplified machine brings the fabulous profits of Plastic Sealing and Plastic Laminating within the reach of the small operator. Can be

operated in a corner of the kitchen, basement, or garage. And any man or woman, regardless of age, education, or experience—can learn this interesting work in a few minutes of reading—can turn out professional jobs after one hour's practice.

TWO EXCITING FIELDS FOR BIG PROFITS!

No house-to-house canvassing. No face-to-face selling. We not only supply the equipment you need for the work, but also show you exactly how to cash in big daily profits from two big demand fields.

A FORTUNE IN PLASTIC SEALING

Millions of people want to protect valuable cards, photographs, documents and papers against wear, soil, and damage. By our MAGIC MAIL Plan you get this business through the mails. Open envelopes, take out money and orders. Details of plan will amaze you. It will be sent free. We even furnish financing help. Just mail coupon.

ENORMOUS PROFITS IN LAMINATING

A creative, artistic business. Gift shops sell your entire output. Just a few of thousands of giftwares illustrated on this page. Beautiful colors. Endless designs. Exclusive "one of a kind" appeal brings sales at ten to twenty times the cost of materials. Beautiful illustrations and instructions for making these artistic novelties sent free.

**NO MONEY—
Just Send Name!**

**We'll Even Help
with Financing!**

WARNER ELECTRIC CO.

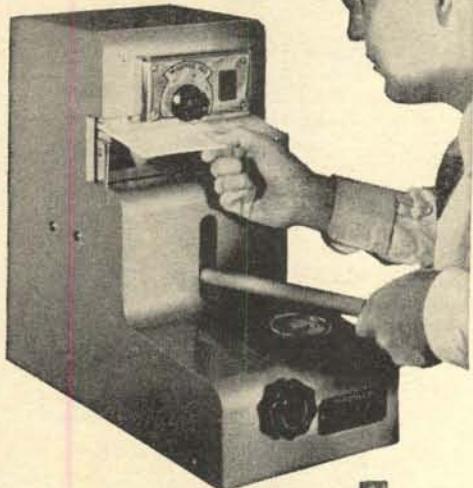
1512 Jarvis, Dept. L-6-C, Chicago 26, Illinois

The opportunities in Plastic Laminating are so big that space here does not permit even skimming the surface. To get any idea at all of the size of these markets and your place in this sensational business you must read the details. See for yourself how easy it is to do the work—how you can put plastic sheets into your machine and take out a fortune—how money and orders come to you in the mail—how gift shops clamor to get more and more of your creations—how you can start with one machine and build up a big production plant with others doing the work—how you can get money and business from every State in the Union—how you can achieve independence without study or experience.



RUSH COUPON

Never before has such an opportunity been offered the small, home-operator—an opportunity to gain complete personal independence in a big money business of your own. Don't lose a minute. Get the facts at once. All information, fully illustrated with pictures, is free. Send the coupon—or send your name and address on a postcard. There is no charge now, or at any other time. Send for the information on this exciting opportunity today.



Cash Money Comes to You in the Mail

By our MAGIC MAIL Plan you sit at home, send out mail, and get back money and orders. Additional profits in supplying lifetime protection for SNAPSHOTS—IDENTIFICATION CARDS—DISCHARGE PAPERS—DRIVERS' LICENSES—SOCIAL SECURITY CARDS—VOTERS REG. CARDS—MENUS—BIRTH CERTIFICATES—CREDIT CARDS—BIRTH AND WEDDING ANNOUNCEMENTS—PASSES—DOCUMENTS.

Lifetime protection. See how laminating prevents soiling, wear, and moisture damage with flexible, plastic covers.



Thousands of Beautiful ART CREATIONS

Made by Laminating as explained in our Free information. Send coupon for list and pictures of COSTUME JEWELRY—JEWELS—CIGARETTE BOXES—CUFFLINKS—NOVELTY BUTTONS—TRAYS—CANDLESTICKS—COASTERS—CLOCK CASES—LAMP BASES—PICTURE FRAMES—BOOK ENDS—CHARMS—ADVERTISING SIGNS—NAME PLATES—BELT BUCKLES—CHECKERS—PAPER KNIVES—CHESSMEN—BOOKMARKS—TIE RACKS—KEEPSAKES OF ALL KINDS.

**WARNER ELECTRIC CO.,
1512 Jarvis Avenue, Chicago 26, Illinois**

Dept. L-6-C

Please mail, postage prepaid, complete information with illustrations showing the things I can make and the money possibilities in Plastic Laminating. All free. No Salesman is to call. Also, tell me your Financing Plan and how I get orders and money by the MAGIC MAIL Plan.

NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____



"MY REAL EYES!"

That's what Bert Caldwell, famous hobbyist of the Bronx, New York calls his MAGNI-FOCUSER.

Mr. Caldwell spends his leisure time constructing scale models of old railroad cars. His other hobbies include woodworking, metalworking, photography, photo-developing and the study of plant life.

"All of this would not have been possible," says Bert Caldwell, "without my MAGNI-FOCUSER. I call it 'My Real Eyes.'" Mr. Caldwell goes on to say, "I was out of hobby work for several years because I just couldn't see fine detail any more. Then someone recommended MAGNI-FOCUSER and I was back in business. MAGNI-FOCUSER is a binocular magnifier that gives 3-D magnified vision. I wear it over my eyeglasses. This leaves both my hands free for all the intricate work I do. MAGNI-FOCUSER acts as an eyeshade, too, by shutting out all overhead and side glare. To resume normal vision, I merely raise my head slightly." MAGNI-FOCUSER comes in 3 models— $1\frac{1}{4}$ " magnification at 14", $2\frac{1}{2}$ at 10", $2\frac{3}{4}$ at 8". Order from EDROY PRODUCTS CO., Dept. A, 480 Lexington Ave., New York 17, N.Y. Costs only \$12.50. Absolute money-back guarantee if you're not delighted.

ADDS BEAUTY TO ALL WOOD FINISHES

PRIMES · SEALS · CONDITIONS

Best start for a better finish! Dries fast, seals thirsty wood tack-free in minutes. Sands without gumming. Insures lightest possible natural wood finish; increases coverage and lustre of top coats. At Paint, Hardware, Lumber Stores. Send 50¢ for complete wood finishing manual. Pierce & Stevens Chemical Corp., Box 466, Buffalo 5, N.Y.

Made by the makers of famous FABULON

PRYME
FIRST-COATER and LIGHTENER

WORKBENCH

volume 19 number 2

Contents for March-April, 1963

FEATURES

Double Your Drawer Space.....	8	Deep-Sea Boys' Bunks.....	56
Frank V. Rodgers		Hi Sibley	
Advanced Electronic Kits.....	10	Fun With Dipsy-Doodle.....	58
All-Purpose Table	14	Shop-Made Pulleys	59
Kit-Built Band Saw.....	16	Walter E. Burton	
Working With Sheet Metal, Part II...19		Theatrical Masks	62
Enno R. Haan		Dick Hutchinson	
Shop in a Workbench, Part I.....22		Workbench Roundup	66
Spinning Wheel, Part II.....26		In the Next Issue.....	57
Mirror Resilvering	30		
Two Tables From One.....33			
L. C. Ruff			
Early-American Speaker Cabinets....34			
Bruce Burk			
Fence-Post Shelves	37		
Paul Corey			
Invisible Wallboard Joints.....38			
V. Lee Oertle			
Renewing Kitchen Cabinets.....40			
Ralph Treves			
Developer-Stain Remover	49		
Display-Work Cabinet.....54			
Roberta Fairall			

DEPARTMENTS

Letters to the Editor.....	4
Shoppers' Showcase	12
Refinishing Clinic	42
Antiquing	
G. L. Bix	
WORKBENCH Women's Page.....	46
Distinctive Doors Decorate	
Dona Meilach	
WORKBENCH Research Department...50	
Shop Tips	64

ADVERTISING AND SALES OFFICES

New York 17, New York, Ed. J. Smith
50 East 42nd Street, OXFORD 7-7990

St. Louis 1, Mo., John Cockerell, Inc.
915 Olive St., GARFIELD 1-0907

Minneapolis 2, Minn., Milton B. Bock
Baker Building, FEDERAL 6-5357

Los Angeles 5, Calif., The Eschen Co.
3142 Wilshire Blvd., DUNKIRK 2-8391

Chicago 3, Ill., John Cockerell, Inc.
116 South Michigan, ANDOVER 3-6929

San Francisco 4, Calif., The Eschen Co.
57 Post St., SUtter 1-7440

DeLand, Florida, R. W. Hunter
Box 1280, REDWOOD 4-5191

John E. Tillotson II.....Publisher

Jay W. Hedden.....Editor

B. A. Leisure.....Art Director

C. B. Morse.....Electronics Editor

M. Carithers.....Staff Artist

G. L. Bix.....Refinishing Clinic

M. Niblo.....Editorial Assistant

E. McCall.....Assistant Editor

R. Turpin.....Advertising Manager



WORKBENCH is published bimonthly by Modern Handcraft, Inc., 543 Westport Road, Kansas City 11, Missouri. Second class postage paid at Kansas City, Missouri, and additional mailing offices. Thirty-five cents a copy. Annual subscription \$2 in the United States and its possessions; \$2.50 in Canada; Foreign subscriptions, \$2.50. Six weeks advance notice required for change of subscription address. Both old and new addresses must be given, and request marked for Circulation Department, WORKBENCH. Printed in the U. S. A., Copyright by Modern Handcraft, Inc., 1963. Postmaster: Send form 3579 to: Modern Handcraft, Inc., 543 Westport Rd., Kansas City 11, Mo.

Contributors should make a copy of all manuscripts submitted. Every effort will be made to return rejected manuscripts, photographs, and diagrams, if accompanied by sufficient first class postage, but WORKBENCH will not be responsible for any loss of such material.

Which?

Start while employed

YOUR OWN GROWING LIFETIME BUSINESS

OR THE SAME OLD SALARY & POSSIBILITY OF LAYOFF

Each of our dealers once made this decision. No longer have they worries of job insecurity . . . limited income . . . the dictates of a boss . . . routine of a plant or office.

Each is independent . . . enjoys freedom of action, has the prestige of business ownership, increases income as business grows. Every dollar earned goes into his pocket.

The national price guide provides a gross hourly profit of \$9 on

your own service plus \$6 on EACH of your servicemen. Only one small job a day brings a good starting income. You need no experience, no shop and not much cash.

If you are reliable, honest and diligent, you may be just the man we are looking for at this time to own and operate a Duraclean dealership in your locality. It's easy to find out. Just mail the convenient coupon . . . there is no obligation.

We Help build YOUR business

... No Shop, No Experience needed

Owning a business of your own is much easier and much simpler than you've likely thought . . . when you have training, assistance and constant cooperation of a firm that is deeply interested in YOUR success.

You need no previous experience. The business is easy to learn . . . easy to start, so easy to service, some women dealers do servicing. Many dealers operate from home. Others have offices or shops.

If you are accepted as a Duraclean dealer, you'll have a close relationship with our staff and with other dealers. We see our dealers often at regional meetings, training schools and Duraclean conventions. We're like a big family. We all work together . . . exchange ideas . . . swap experiences.

We show you many quick ways to bring customers to you. We provide a sales creating kit, tested sales aids and a complete mailing program. Magazine ads explain the superior merits of YOUR modern services, originate customers FOR YOU and develop customer confidence in YOUR business.

You will have pre-tested newspaper and yellow-page ads, store display cards, radio and TV commercials, folders and sales materials. Demonstrations win customers. Your services are backed by Parents' Magazine Seal and "Use-Tested" approval of McCall's; also recommendations of furniture and carpet makers.

Start while Holding Your Present Job

Duraclean dealers often continue present employment while customer lists grow . . . then switch to full time, lining up jobs for service men to do.

You not only have the opportunity to quickly increase your income . . . your dealership's growing value increases your net worth. Jerry Humbird (Wash.) operated his dealership 4 months and sold for \$1,325 above his cost.

Jack Braniff (W. Va.) started 3 dealerships and sold each at a substantial profit. G. F. Munroe, after 12 months, sold his Texas dealership for 10 times his cost. Leo Lubel (Tex.) after 30 months sold for \$8,308 above cost. If a dealer moves, becomes ill or for any reason wants to sell, we help him find a buyer.

Even more important is the continuous cooperation you have from Headquarters and from other Duraclean dealers. You are kept posted on new sales and service ideas and other dealers' experiences with continuous suggestions for increasing your sales and profits. Our entire staff is always available to discuss any problems or plans you may have.

You have the prestige, independence and security of YOUR OWN lifetime business . . . so you can steadily increase your family income year after year without waiting for a raise.

Duraclean's world-wide growth came from the safer, quicker-drying absorption process rendered in the home by courteous, trained craftsmen. Housewives, clubs, hotels, offices, institutions are thrilled to see upholstery and floor coverings cleaned with a new consideration for its life and beauty. Instead of floating surface soil deeper, this improved process REMOVES it.

Duraclean doesn't merely clean . . . it restores resilience to fibers. Colors revive. The reinvigorated pile again stands erect and even. An aerated foam created by the electric Foamavator banishes soap and scrubbing.

Our laboratory is at your service for any unusual situation.

Customers tell friends how Duraclean eliminates machine-scrubbed fiber breaking and soaking . . . how mild quick-acting foam, lightly applied, provides safety . . . how fabrics look fresher, brighter . . . how quickly they are back in use.

Almost every building houses a customer. Furniture, department, and carpet stores, interior decorators and upholsterers refer jobs from their customers. Auto dealers have used cars Duracleaned and take orders. This lifetime business grows from recommendations and repeat orders.

Government figures show service businesses growing much faster than stores and industries . . . \$750 yearly potential in rug and upholstery cleaning.

Our dealers enjoy profit on both materials and labor.

We prefer that you have no cleaning experience so you don't have to "unlearn" old scrubbing methods. An experienced dealer will train and assist you . . . reveal his successful ways to build customers. He and we will show you everything you need to know to succeed and build your dealership.

A few hundred dollars establishes your own business—pay balance from sales. We furnish electric equipment, sales aids, and enough materials to return your TOTAL investment. This may be the life opportunity you should not miss.

You Have 6 Complete Services

DURACLEAN, modern absorption process, brightens, cleans & revives rugs, carpets and upholstery with a new SAFETY and convenience.

DURASHIELD, applied to new or freshly cleaned fabric, retards soil and stains . . . retains the fresh, new look much longer.

DURAPROOF kills moths and carpet beetles. It makes upholstery, rugs, blankets, clothing repellent to both. You give a 6-YEAR WARRANTY.

DURAGUARD flameproofs . . . prevents fire starting from cigarettes, candles, etc. Reduces fire damage in homes, theaters, hotels, clubs and institutions.

SPOTCRAFT safely removes most stubborn spots and stains.

TUFTCRAFT enables you to repair cigarette burns, moth damage.

Fabric Makers Say

" . . . superior to any on-location process with which I'm familiar."

—President, Modern Tufting Co.

"We approve this process . . . we are pleased with the texture restoration."

—Aldon Rug Mills

" . . . standards in keeping with service to which carpets and consumer are entitled." —American Viscose Corp.

"We recommend Duraclean as the safest and most effective method of cleaning fine furniture." —Trendline Furniture Corp.

"Duraclean method is superior." —Croft Carpet Mills.



Dealers Say

L. Lawson: "National advertising is tops, creates leads. In September, working alone, jobs totaled \$1,475."

Ed Kramsky: "In 2 years, I now have two assistants, a nice home and real security for my family."

John Jaffe: "There's a huge demand for good carpet and upholstery cleaning. If you tell enough people about Duraclean, you have to make good."

Carl Smith: "Earned \$650 in one week."

Thomas C. Mason: "Cleaned two rooms for a stock broker. He was so impressed he had 7 jobs lined up for me and from those seven came 4 more."

Russel C. Blue: "Customer called a prominent competitor. They said they could not clean her badly soiled furniture . . . to contact me because if anyone could get it clean, I could."

Ward Whitbeck: "In my fifth year am making as much as \$225 in one day."

L. Broersma: "Have now completed 5 years with Duraclean. We have never had one complaint."

E. Davis: "Sales increased \$17,600 this year."

You can Find Out with No obligation

Just mail the convenient coupon today. There is no time like the present to find out whether this is the business that will increase your income and secure your future. We'll send you all the facts with no obligation.

If you then decide you would like to become a Duraclean dealer, you can mail your application and, if you qualify for acceptance, we'll soon have you operating.

Your first letter and 36 page illustrated booklet will explain everything . . . these modern, urgently needed services, the waiting market, how business grows, your large profits, and how we help finance you.

Mail Coupon Today while territory is open. DURACLEAN 3-563 Duraclean Bldg., Deerfield, Ill.

"OWN a Business" Coupon

DURACLEAN CO. 3-563 Duraclean Bldg., Deerfield, Ill., U.S.A.

Without obligation, tell me how I may enjoy a steady increasing life income in my OWN business. Enclose FREE 32 page booklet and full details.

Name _____

Address _____

City _____ State _____

WORKING ON WOOD PROJECTS?



STAINS and VARNISHES

Quality REZ natural wood finishes are the answer! Combining the ultimate in beauty and protection on all interior and exterior woods, REZ finishes give any wood project the professional touch. If you're "busy as a beaver" on wood projects, do-it-yourself the easy way...the REZ way!

The Best thing that's Happening to Wood!

REZ WOOD-TONES, INC.
Dept. 101, P.O. Box 142, Springdale, Pa.

NOW! REPAIR YOUR OWN SCREENS

... quickly and easily!



This special screen makers' tool makes it easy when making or repairing aluminum framed window screens and doors, or plastic storm windows. You need this tool to roll screen wire tightly and smoothly into slot, then to roll plastic spline into slot to hold screen wire firmly in place.

Here is the tool that gives you a finished, smooth-fitting, buckle-free job in far less time. Convex roller at one end pushes wire into slot; concave roller at the other end for placing spline. Rollers are high carbon steel; seasoned ash handle.

A lifetime tool. 2 for \$2.35

\$1.29

Order by mail. Satis. or money back.
Write for our FREE catalog of fine tools

Drumcliff Co., Dept. 779, Towson 4, Md.

Shop Lumber ... native and imported

Complete line of lumber and squares.
Order direct from the mill and Save!

Send 25c in coins or stamps for complete
catalog of lumber and do-it-yourself kits.

GILES & KENDALL CO.
BOX M
HUNTSVILLE, ALABAMA

Letters to the Editor

Dear Mr. Editor:

As a new reader, have a suggestion on measurements: The majority of countries in the world use the metric system both for weights and measures. This much-simplified system would be ideal for all of us craftsmen, perhaps you can publish this letter and get reactions from readers.

L. A. Blodgett Jr., Asheville, N. C.



Dear Mr. Hedden:

Here is a photo of the rustic-pine telephone stand I made from plans in the Sept.-Oct., 1960 issue. Also shown is one end table and a coffee table I built, using the same design as in the telephone stand. The magazine stand in the background is a surprise gift from my 13-year-old son. Would like to see more rustic furniture.

Hollis Greene, Akron, Ohio.

Dear Mr. Blodgett:

The metric system is being adopted by many industries, and by most of the sciences. Our problem is that most building materials are sold by the foot and inch, or by the pound. A complete change-over would require a tremendous amount of time and work, and probably would cause economic hardship in many cases. We do believe the metric system will be accepted in this country eventually, but it will not be in the near future.

Dear Mr. Hedden:

Am enclosing a photo of a clock I made last year from a Mason and Sullivan print of their Pride of the Century model, and a clipping from our company newspaper telling about my shop and my woodworking. Hope to work in my shop after retiring. Am using Andy's Woodcraft as my trade name. Would like to hear from other wood craftsmen.

Andy Rorer, 904 King St.,
Burlington, N. C.

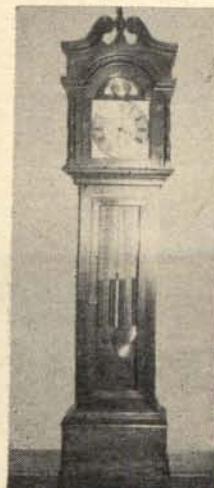
Dear Mr. Greene:

In answer to your request for plans for the unusual fireplace shown in the article on installing hardwood flooring, in the Sept.-Oct., 1962 issue, we must say that none are available. We have learned that the fireplace was made up just for the photo setting. Also, the Fire Underwriters wrote the advertising agency and told them the fireplace should be two courses of fire brick.

Bernard J. O'Connor, Partner Maurice E. Collins Organization.

Dear Mr. Rorer:

The clock is beautiful, and from the article in the company newspaper, was built in record time. Your shop sounds complete, and we are sure you will enjoy keeping busy in it after your retirement.

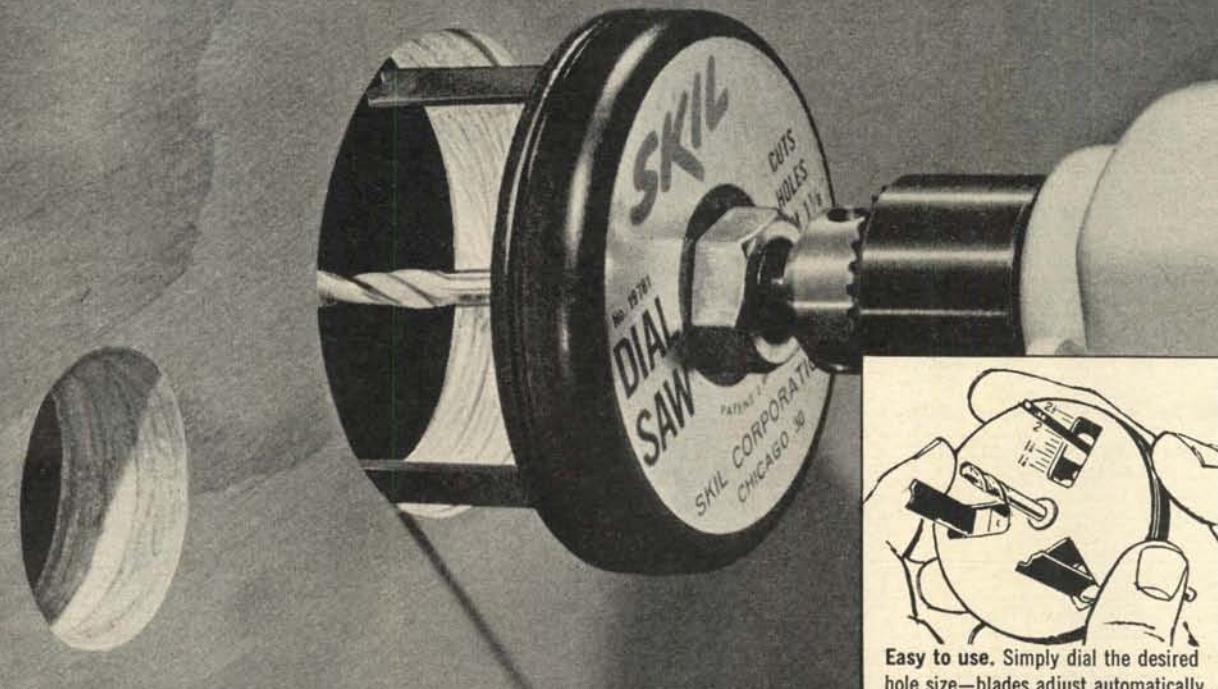


Dear Mr. O'Connor:

Thank you for the information. We received quite a number of letters asking for plans for the fireplace. Now that we know they are not available, perhaps some reader is, or knows, a skilled bricklayer or mason who could give us a similar design, tell us how to build it.

FREE! \$495 DIAL SAW

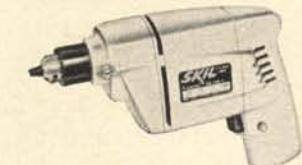
for drilling holes $1\frac{1}{8}$ " to $2\frac{1}{2}$ "...



Easy to use. Simply dial the desired hole size—blades adjust automatically.

with any of these powerful Skil drills!

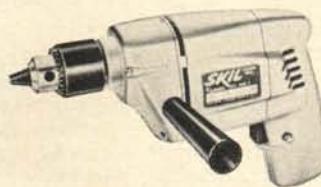
Model 503D $\frac{1}{4}$ " Drill has a full 2.5 amp. motor that provides power to spare for drilling in concrete, metal, brickwork, plaster, wood or wallboard. Lightweight—only 3 lbs. Priced under \$20.



Model 560D $\frac{3}{8}$ " Drill has double reduction gears, powerful motor for greater drilling torque. Side handle gives extra control, removable when drilling in tight spots. Priced under \$35.



Model 541D $\frac{1}{2}$ " Drill—Most compact, low-cost $\frac{1}{2}$ incher available. Gives big drill performance with small drill handling ease. Powerful 3 amp. motor, multi-ball thrust bearing for heavy-duty work. Removable side handle. Priced under \$37.



SKIL
POWER TOOLS

Prices slightly higher in Canada.

You'd need a dozen or more attachments to cut the range of hole sizes made by this remarkable Skil Dial Saw.

Dial any size from $1\frac{1}{8}$ " to $2\frac{1}{2}$ ". Cut through wood, wallboard, plastics and compositions.

The Dial Saw is yours *Free* with any of the three Skil drills shown below. But don't wait. This is a limited time offer available at most hardware and lumber dealers.



WRITE FOR FREE SKIL POWER TOOL CATALOG

Send to Skil Corp., 5033 Elston Ave., Chicago 30, Illinois.

Name _____

Address _____

City _____ Zone _____ State _____

Dept. 510CD

LEARN WOODWORKING AT HOME

Complete Home Training Course in Woodworking and Cabinetmaking Now Available

Today—it's easy to acquire the skills and craftsmanship of fine woodworking and cabinetmaking

with Interstate's complete "shop method" course. Prepared by expert instructors, the course consists of 22 profusely illustrated training manuals containing more than 1100 pages of instruction. Covers all phases of woodworking, including selection of woods, planning and laying out projects, correct use and care of all hand and power tools, joint making, cutting, assembling, finishing, simple upholstery, etc. Over 75 learn-by-doing instruction projects give work bench training and experience in actual construction. Course is approved for beginners and professionals alike.

Send for Free Booklet Today!

INTERSTATE TRAINING SERVICE

Dept. F-7, Portland 12, Oregon

Please send free booklet and information on your complete course in Woodworking and Cabinetmaking.

Name _____

Address _____

City _____ Zone _____ State _____



No washing
No sandpapering

FINER RESULTS in PAINTING

No need to scrub and sandpaper enameled or varnished woodwork before repainting! WIL-BOND, applied with a rag, removes dirt and grease while it DULLS THE GLOSS. New finish goes on smoothly—no streaks—bonds tightly. Helps prevent chipping. At paint and hardware stores.

Write for free Wil-Bond folder.

• Send 25¢ for illustrated Refinishing Manual
Wilson-Imperial Co., 124 Chestnut St., Newark 5, N.J.



WOODWORKERS. copy this quaint E. American dough board, c. 1760, 26 1/4", 16" w., 24" h., with full size patterns, authentic Colonial detail, and all shop cutting angles. Plan is nationally advertised, fully guaranteed, with complete antique finish, "distressing" tips, and a free copy of our new Plans "Bulletin" for only \$2. Old South Patterns, P.O. Box 111, Clarendon, N.C.—or send 25¢ for new Plans "Bulletin" of 98 E. Amer. & Colonial gems you can make.

You have a use for

KRYLON

SPRAY PAINT

In Ready-to-Use Aerosol

IF YOU PRIZE IT... KRYLON-IZE IT!

Dear Mr. Hedden:

Have seen some photos of woodcarvings in WORKBENCH, so am sending some snapshots of my work. Have no training in the art, and get my ideas from books and magazines. Rough out the carvings on a small bandsaw, do most of the work with knives, but do have a set of carving chisels. Get some good ideas from WORKBENCH for my carvings, as well as for my job as carpenter.

Jerry Burns, Oneida, Ky.

Dear Mr. Burns:

Your wood carvings are as fine as any we have ever seen; much more detailed than most. You should sell them easily. The price you get will depend on the buyer, yourself and the area of the country in which you sell. Sorry we have room for only one photo of the several you sent.



Dear Mr. Hedden:

Am sending you a picture of the Hepplewhite chair I made from plans in the May-June issue. It is made of the best walnut I could obtain, and hand carved and hand fitted. Has hand-rubbed oil finish. Ray Ruschell, Washington, Pa.

Dear Mr. Ruschell:

A beautiful job, indeed. Quite a number of our readers have made the chair, some have made a set of the chairs to go with the Hepplewhite table, plans for which we also published. Full-size plans for both projects still are available.

Attention Research Department
Gentlemen:

In your Sept.-Oct., 1962 issue you printed a letter regarding soot stains on sandstone. This is a rather common difficulty with porous masonry, such as sandstone. For your further information here are two cleaning methods recommended by the quarriers:

For light stains—use a household liquid bleach.

For heavy stains—dissolve 4 oz. of high-grade yellow laundry soap in 1 qt. boiling water, allow to cool and stir in 1/2 lb. powdered pumice stone and 1/2 cup household ammonia. Mix and set aside. First, use stiff brush to remove as much smoky deposit from stone as possible. Next, apply soap mixture and let stand 15 to 30 min. Finally, scrub off soap mixture and rinse with plenty of warm water.

As regards sealing the sandstone for future protection, we have found that clear sealers containing silicone do the best job without changing the color of the stone surface. These silicone sealers will also stop the efflorescence not only in the case of Mrs. M. L. A. (same issue), but also on brick and masonry. H. L. Magers, Jr., General Mgr., The Louis O'Connel Co., Coal and Builders Supplies, Tiffin, Ohio.

Dear Sirs:

I have made a number of the "Furniture-Block Puzzles" that were described in the Nov.-Dec., 1961 issue, and have given some away. Will retire shortly and might be interested in making some as a hobby, possibly putting them in stores to sell. Is this item patentable, or can I make and sell them? E. R. Allen, Apalachin, N. Y.

Dear Mr. Allen:

All projects published in WORKBENCH automatically are in the Public Domain, thus are not patentable, can be made and sold by anyone.

Jay W. Hedden



Cuts
extra
fast!

Weller® Hi-Speed Sabre Saw

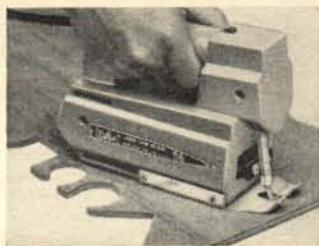
Here's an ultra-high speed saw that combines super-fast cutting action with easy guiding. Powered by Weller's 4.8 ampere, heavy-duty motor, it provides 7,200 cutting strokes of $\frac{1}{16}$ " every minute. These short, fast strokes provide a smoother cut, and prevent bucking. Angled blade frees itself from the work on the return stroke. This releases cuttings, reduces friction, speeds sawing.

The Weller Hi-Speed Sabre Saw is a crosscut saw, rip saw, scroll saw, jig saw and keyhole saw—all in one. It

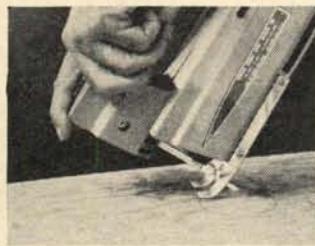
cuts through wood (up to 1" finished stock), plywood, composition board, plastics and many other materials.

Maintenance-free. No gear box, commutator or metal bearings to wear out. Lubricated for life. Motor is cooled with air pump. Safety design and housing of high-impact thermoplastic eliminate electric shock hazard.

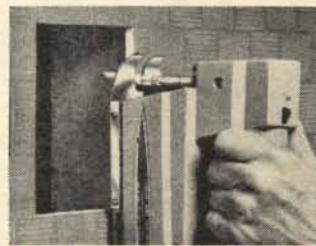
Five assorted blades are included for making small and large radius cuts, and for cutting on the up-stroke or down-stroke. UL approved. Model 88.



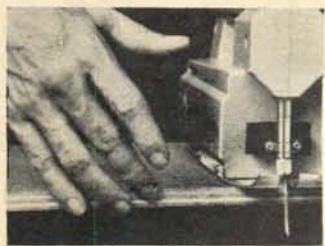
Makes all kinds of cuts such as curves and intricate patterns. Cuts with or against the grain. Follows a guide line accurately because it never bucks.



Makes its own starting hole for inside cuts. Merely set toe-plate of sander on the material and ease blade into surface. The cut is fast and clean.



Light-weight and versatile. Use it on overhead or vertical surfaces without fatigue. Cutting holes for switch boxes and lights are typical examples.



Cuts smooth. Short, fast strokes never tear wood. Blades included cut on up-stroke or down-stroke for smooth sawing from either side of a surface.

WELLER ELECTRIC CORP. • 601 STONE'S CROSSING ROAD, EASTON, PA.

MAKE YOUR HOME WORKSHOP PAY OFF
in spare time or full time income

ELECTRICAL APPLIANCE REPAIR

Set up an ELECTRICAL APPLIANCE REPAIR shop in YOUR HOME and make good money. No big investment or costly equipment required. All you need is a workbench, spare time and N.T.S. easy Home Training in Electrical Appliance Repair.

Now, you can turn spare hours into cash profit by repairing any home appliances—from toasters, electric irons to washing machines and even room air conditioners—right in your own workshop. Here's your big chance to get into business for yourself on a full-time or part-time basis, doing work you really enjoy. Or take a high-pay job with an appliance manufacturer or large service company.

COSTS LESS THAN \$1.50 PER WEEK

N.T.S. will provide you the easy home training you need to handle all appliance repair jobs... including a professional Appliance Tester and simple, easy-to-learn instructions, fully illustrated. (See Photo) N.T.S. shop tested training is complete, practical, proved effective. Use your equipment (given to you at no additional cost) to earn while you learn. Pay for your course with spare time profits.

NATIONAL TECHNICAL SCHOOLS
WORLD-WIDE TRAINING SINCE 1905
4000 SO. FIGUEROA ST., LOS ANGELES 37, CALIF., U.S.A.

FREE BOOK AND ACTUAL LESSON

Read about the unlimited opportunities for home appliance men. See how easy, practical and complete your training will be. Mail Coupon, Letter or Postcard now to National Technical Schools, 4000 So. Figueroa, Los Angeles 37, Calif.

NATIONAL TECHNICAL SCHOOLS
WORLD-WIDE TRAINING SINCE 1905

Mail now to
NATIONAL TECHNICAL SCHOOLS, Dept. H7N-23
4000 S. Figueroa St., Los Angeles 37, Calif.
Rush FREE "Opportunity" Book and Actual Lesson. No salesman will call on you.

Name _____ Age _____
Address _____
City _____ Zone _____ State _____

6

NO OBLIGATION—NO SALESMAN WILL CALL

Double Your Drawer Space

Frank V. Rodgers

IF YOU HAVE A SPACE problem in dresser drawers—and most of us have—this easily built and installed tray may be the answer to your problem. Small items such as a man's jewelry, wallet and watch, and a woman's lipstick, compact and similar small items either clutter the dresser top, or get lost in among the items in a drawer. This



tray is immediately accessible when you open the drawer, and there is a place for each and every item.

Depth of the drawer tray can be varied; the one shown is 2 in. deep. Its length is one half the drawer length, and it is narrower by $\frac{1}{8}$ in. from front to back than the drawer. The $\frac{1}{8}$ in. assures easy sliding along the tracks inside the drawer. Tracks can be made of wood or aluminum angles. Build the tray sides from $\frac{1}{2}$ or $\frac{3}{4}$ -in. stock, nail and glue on a bottom of $\frac{1}{4}$ -in. hardboard or plywood. Install the tray in the drawer on the slides, then carefully place the items on the tray that will be stored on it, and mark space for each one. Remove the tray and fit partitions to enclose the marked-off areas. Use stock $\frac{1}{2}$ in. or thinner so that maximum amount of space is useable. Sand all corners and edges smooth, then apply a couple of coats of varnish or lacquer. △ △

After making the tray frame, installing the tracks and fitting the tray in the drawer, mark the required spaces on the tray bottom. Cut partitions to fit, using stock $\frac{1}{2}$ in. or thinner so the maximum amount of space is useable.





I have enough capital to help good men who *may need more money than they make*

I've helped others in the past and my confidence in men has turned out all right for them—and for me. In my 40 years in business I've found that people—both men and women—have proved to be a better investment than trading in the stock market—at least for me. So I intend to go right on using my capital to help others who have the ambition and energy needed to help themselves, if given a little financial assistance.

By Donald B. Warner

My plan is no "get rich quick" scheme that will allow you to give up a regular job and a pay check. It offers a future, but the time to think about that will come later. Right now let's look at it only as a good way to make money in spare time without any door-to-door canvassing.

The work you will do is more like fun than work. It's enjoyable—never boring. It's easy to do. Also, it's satisfying in the creative sense because it involves making products that are beautiful to look at and highly prized by the people who want them.

But, it's work that brings in extra money *every time you spend an hour in your shop!* If you don't have orders for the product, you don't waste any time. But when you receive orders in the mail or from some neighborhood storekeeper, you put on your blue jeans, spend an hour in the shop and turn out a product that sells at \$6.95 at retail. The raw materials cost you just exactly 58c. So you can see the profit to be made on just one order.

And that brings up another very important point. Most of the people I've helped in this business are people who don't want anything to do with house-to-house selling. They just don't like the idea of asking others to buy something from them. That's why my plan is so wonderful. It shows seven different ways to get orders for this particular product without any personal house-to-house work. The customer sends the work to you.

Your friends don't even have to know that you're making money. They will think

your work is just a hobby. You can do a few pieces for them—just for practice—and they'll think you've just found a wonderfully interesting pastime. Your employer doesn't have to know that you're making money on the side because your whole shop can be set up in your basement, in a corner of your kitchen, in your garage or in a spare room. Wherever you have about three square feet of space, an electric outlet, and a water supply, you're in business.

I hear you asking "What is this product?" You probably think it's a novelty or a fad. You wonder how it would be possible to have a gross profit of more than \$6.00 on a \$6.95 sale if it wasn't something pretty junky.

Well, it isn't junky. It isn't a fad. It's a product that has been popular for years and years and years. It's a product that never goes out of style. It's a product that will have a steady and increasing market for all the years of your life. And, it isn't cheap looking. In fact, it looks like it might sell for much more than \$6.95. The reason you can make it at such low cost is that the buyer—your customer—furnishes most of the raw material. You spend just 58c for the materials you need to turn his material into a thing of beauty and a joy forever.

Your next question might be, "If this is so great, why isn't everyone doing it?" That's a natural question and I can give you an answer so logical that you will see it is true. This is the reason: Not everyone can qualify! The equipment you need to

start this business costs money. The total cost is no more than you'd spend for a new refrigerator or a TV set. But—since I help ambitious and serious minded men by financing about three fourths of the total cost out of my own money, I want to know the kind of man—or woman—I'm dealing with. And like I said, not everyone can qualify.

You may be able to meet the requirements. But before you even think about making even a small investment, I'd like to send you a big illustrated circular and a letter which tells all about the business. See for yourself exactly why the demand for this product will never diminish. See for yourself how orders come to you without house-to-house selling. See for yourself how much fun it is to turn out these beautiful products.

Then you can decide if you want to fill out the form that invites me to help finance your start. I have the capital—all I need—and I'm willing to use it to help men who want to help themselves to the extra money that is needed today by so many thousands of families.

There is no charge for the circular or letter. Just your name and address is all I need. It will come to you by prepaid mail. No salesman will call to bother you. No high pressure, because the men I back with my money must be men who make their own decisions on their own appraisal of the business. So, send me your name today. I think you'll be glad you saw this invitation. An ordinary postal card will do. Mail it to Donald B. Warner, 1512 Jarvis Ave., Chicago 26, Illinois. Dept. M-6-C.



Backyard Blues?



Good News!

Here's the way to add amazing new beauty and convenience to your home. Replace that troublesome wood door with a modern Bilco. All steel, permanent, watertight, opens and closes at a touch. A new Bilco Door will do wonders for your home . . . and for you!



AMERICA'S FINEST
BASEMENT DOOR

The Bilco Co., Dept. R-83
 New Haven 5, Conn.
 Please send me your free illustrated folder and name of local dealer.

Name _____

Address _____

City _____ Zone _____ State _____

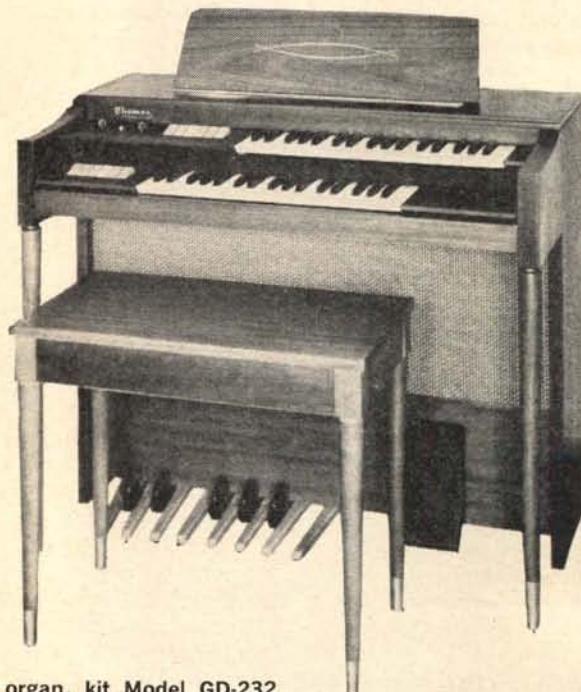
ADVANCED ELECTRONIC KITS



Hi-fi TV receiver, kit Model GR-52

so successful, and skillful, have kit buyers become that manufacturers now are producing in kit form everything from analog computers to radio-controlled garage door

openers. Two of the newest items are a low-cost electronic organ and a television set. The Model GR-52 TV kit is complete with cabinet, and has a 23-in. picture tube. All

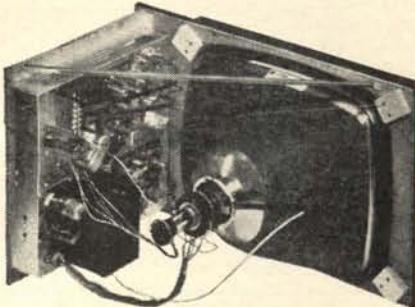


Transistor organ, kit Model GD-232

BUILD WITH CRAFTPLAN PATTERNS

critical circuits (tuner, I.F. strip and high-voltage sections) are completely factory-built sub-assemblies that are aligned and tested before being put in the kit. If you want to place the television set in the wall, a wall mount is available, and the TV kit and mount are \$60 less in cost than the kit with cabinet. For just the kit alone, Model GR-22, the price is another \$20 less. Assembly time for the TV kits is about 12 hours. There is an optional UHF tuner, which will permit the television set to receive the channels in that area. A recent law makes it mandatory for all manufacturers of complete TV sets to include such a tuner, and we recommend including the tuner in a kit-built set.

For the musically inclined, the low-cost electronic organ in kit form is definitely worth investigating. This is a kit version of the well known Thomas organ. The transistorized tone generator boards, heart of the organ, are warranted for five years. The organ has 10 true organ voices, two 37-note keyboards. A 48-lesson course in organ playing on four 12-in. LP records can be purchased, as can a 7-in. demonstration record from the Heath Co., Benton Harbor, Mich.



Hi-fi TV receiver, kit Model GR-22

Transistor Handbook

UNDERSTANDING TRANSISTORS—And How to Use Them is title of new 96-page handbook of transistor fundamentals that was prepared as an introduction to the subject on semiconductors for hobbyists and experimenters, and as a guide for home study and classroom use. Book contains information on history and development of transistor, its performance characteristics and its use in various types of circuits. Interesting reading for anyone who wants to know about present-day electronics. Just 50 cents (Cat. No. 37 K 602) from Allied Radio Corp., 100 N. Western, Chicago 80.

HUNDREDS OF THINGS to do and make FOR FUN AND PROFIT



New! Plans for STRADIVARIUS VIOLIN

All the information and full-size patterns you need to make accurate copy of famous Strad violin. Order by Cat. No. 389 . . . \$2.00.



New! COLONIAL SPINNING WHEEL

Authentic design. Full-size. Use for actual spinning. No. 379 . . . \$2.00.



DOLL HOUSE PLANS

Complete details 6 different houses. Colonial, etc. Cat. No. 364 . . . \$1.50.



DOLL HOUSE FURNITURE

For houses covered by above plans. No. 365 . . . \$1.50.



22 KITES

How to build all kinds: simple 2-stick; to giant 5 foot. No. 354 . . . \$1.50.



PENNA. DUTCH DESIGNS

93 full-size patterns; incl. 11 alike for hobbyists, decorators. No. 353 . . . \$1.50.



HOW TO MAKE ALL KINDS OF CANDLES.

Practical how-to information. No. 352 . . . \$1.00.



47 DESIGNS CANDLE-STICKS, CANDELABRA,

you can make. No. 328 . . . \$1.50.



15 ACTION WINDMILLS

Galloping horse, bull chasing, farmer, etc. Full-size patterns. No. 313 . . . \$1.00.



SIX DESK PLANS

Desks for all purposes. Six fine designs. No. 371 . . . \$1.50.



GIANT CIRCUS PINUPS

Up to 22 in. high. Prints made of thin plywood, mounted in colors, delight youngsters. No. 314 . . . \$1.



15 OUTDOOR FIREPLACES

Full details. No. 204 . . . \$1.



COPPER TOOLING

23 designs. No. 343 . . . \$1.00.



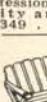
15th Century WOODEN WHEEL CLOCK

New! Wonderful conversation piece. Single hand indicates hours, fractions. Surprising in simplicity. Full-size patterns all parts. No. 372 . . . \$1.50.



157 SILHOUETTE DESIGNS

Great variety of subjects. Professional quality art. No. 349 . . . \$1.50.



30 LAWN NOVELTY CUTOUTS

Unusually cute designs. Full-size patterns. No. 347 . . . \$1.50.



MUSICAL NOVELTIES

Use Swiss movements. 19 designs. No. 239 . . . \$1.00.



NATIVITY SCENE

Dramatic presentation of



KIT FOR MAKING ANIMATED COMIC PHOTOS #350 . . . \$1.50.



MECHANICAL COIN BANKS

5 designs. No. 361 . . . \$1.50.



16 DESIGNS, GUN, FISHING GEAR RACKS, CABINETS

Store SAFELY Shotguns, Rifles. Handguns; also fishing rods, lures, etc. No. 334 . . . \$1.00.



16 WHATNOT SHELVES, WALL RACK

Latest fashions in wall decor. All patterns full-size. No. 342 . . . \$1.00.



UNUSUAL BIRD HOUSES

16 Designs—gentle bird houses that are completely different; if so, don't overlook these plans. No. 341 . . . \$1.

HUNDREDS OF THINGS to do and make FOR FUN AND PROFIT



New! GROWING ORCHIDS AT HOME FOR PLEASURE AND PROFIT.

Plants require less care than many ordinary house plants. Full details. Cat. No. 380 . . . \$1.

SCRIPT LETTERING — 8" high. Full-size patterns. A to Z-Caps, small letters, numerals. No. 335 . . . \$1.50.

BLOCK LETTERING — 12" high. Alphabet Caps, numerals. No. 334 . . . \$1.50.

BLOCK LETTERING 4, 8" high. Alphabet, numerals. No. 333 . . . \$1.50.

GIANT A TO Z LETTERING 24" high. Complete alphabet. No. 329 . . . \$1.50.

LETTERING PATTERNS 5 Designs—Unusual Alphabets—2, 3" high. Caps, small letters, numerals. 282 . . . \$1.50.

20 SERVING TRAY DESIGNS

Tray for every occasion. No. 332 . . . \$1.00.

50 WOOD LATHE PROJECTS No. 331 . . . \$1.50.

30 SMART LAMPS

How to make lamps like you find in smart shops. No. 308 . . . \$1.50.

ETCHED ALUMINUM TRAYS

12 designs, complete how-to-make details. No. 367 . . . \$1.50.

EDUCATIONAL TOYS

14 different. No. 324 . . . \$1.00.

ELI TERRY CLOCK

With Wood Gears. All details and patterns needed to duplicate famous original made in 1794. No. 325 . . . \$1.50.

New! How to Make and Use an ABACUS (Chinese calculator that uses beads). No. 378 . . . \$1.

\$6.00 WORTH OF PLANS FOR \$5

If price of plans you order is \$5.00 we'll include an extra charge another dollar's worth of plans. If you send us the price of plans selected is \$10 you get \$2.50 worth of free plans. Your money back if you're not satisfied.

Please note

18 DECORATOR STYLES, MODERN WALL CLOCKS

Designs compare favorably with clocks selling for up to \$50. No. 326 . . . \$1.00.

ARTISTIC WIRE FIGURES

25 designs. No. 320 . . . \$1.00.

"UNCLE SAM" MAILBOX SUPPORT

66 in. high. No. 281 . . . \$1.00.

DUCK DECOYS—Mallard, Pintail, Canvassack

No. 373 . . . \$1.00.

24 GADGETS FOR SMOKERS

Pipe racks, cigarette dispensers, smoking stands, etc. No. 323 . . . \$1.00.

MIDGET CARS

Powered by small gas engines. Two designs—racer, sedan. No. 322 . . . \$1.00.

New! CARVING ANIMAL CARICATURES

Tricks of making delightful little carvings. No. 375 . . . \$1.

HOME IMPROVEMENTS (Outdoor)

Plans on year-round awnings, garage cupola, Dutch windmill, 57 trellises, fences, storm windows, etc. No. 309 . . . \$1.50.

HOME IMPROVEMENTS (Indoor)

How to make cornices, kitchen cabinets, bookcase units, modernize basement, attic, etc. No. 318 . . . \$1.50.

18 DESIGNS FOR WEATHERVANES

No. 269 . . . \$1.00.

22 LAWN NOVELTIES

Have artistic touch not ordinarily found in such projects. Full-size patterns. No. 299 . . . \$1.50.

27 DISTINCTIVE SHELVES, SHADOW BOXES

Distinctive shelves, 8 shadow boxes. No. 300 . . . \$1.50.

MODERN WOOD FINISHING INSTRUCTIONS

No. 235 . . . \$0.50.

18 DESIGNS FOR WEATHERVANES

No. 269 . . . \$1.00.

KEEP OFF

22 RACKS, CABINETS, KITS

For Sewing Accessories. Useful, easy-to-make projects. No. 301 . . . \$1.

15 FAST-ACTION TOYS

All patterns full-size.

No. 294 . . . \$1.00.

15 HANDSOME TABLES

Well-designed cocktail, coffee, end, lamp. Full details. No. 288 . . . \$1.00.

14 COLORFUL FLOWER BOXES

Fancy patterns 14 fifty boxes for potted plants. No. 278 . . . \$1.

16 BOOK END DESIGNS

Wonderful assortment. No. 274 . . . \$1.

GARAGE PLANS

Build One 1, 2-car. No. 327 . . . \$1.50.

27 BIRD HOUSES, FEEDERS

Small wren house to large colony house for martins. No. 253 . . . \$1.00.

BAR-B-Q APRONS 7 designs, full size patterns. No. 376 . . . \$1.50.

CLOWN PICTURES — Paint by number. 4 designs. No. 357 . . . \$1.50.

PLANTERS — 21 Designs. PLANT STANDS, HANGING GARDENS. No. 337 . . . \$1.00.

13 STURDY WORKBENCHES

Complete plans. No. 211 . . . \$1.00.

13 Designs WOOD INLAY PICTURES

No. 315 . . . \$1.00.

HOW TO ORDER: Send list of plans selected. Remit by check, money order, postal note, U.S. bills. Order Today!

We pay shipping charges. All plans sent on MONEY-BACK GUARANTEE.

Dept. F-56, 18250 Harwood, Homewood, Ill.

CRAFTPLANS

20 THINGS TO MAKE FOR CHILDREN

Novel, practical projects. No. 207 . . . \$1.00.

14 more ACTION WINDMILLS

Cop, swinging arms, flying etc. No. 293 . . . \$1.00.

New! MIRROR SILVERING

Easy step-by-step procedure. No. 374 . . . \$1.00.

CAROL SINGERS OUTDOOR HOLIDAY DISPLAY

Singiest kids you ever saw, 47 in. high. Easy to make from plywood. Full-size patterns. No. 310 . . . \$1.00.

New! BONSAI-GROWING DWARF TREES

"Secrets" practiced by Japanese for centuries. No. 368 . . . \$1.00.

MAGAZINE RACKS

All details needed to make 8 racks attractive design. No. 307 . . . \$1.00.

RELIGIOUS MOTTOES

Full-size patterns 8 inspiring mottoes, beautiful, 14" high. Large Prayer. No. 306 . . . \$1.00.

129 JIGSAW PROJECTS

Great variety of things to make on jigsaw. No. 305 . . . \$1.00.

17 PIECES FINE LAWN FURNITURE

Designed for comfort, sturdiness. No. 304 . . . \$1.00.

COSTUME JEWELRY

Full-size patterns 482 lapel pins, brooches, name pins, alphabets, etc. No. 302 . . . \$1.00.

22 RACKS, CABINETS, KITS

For Sewing Accessories. Useful, easy-to-make projects. No. 301 . . . \$1.

27 DISTINCTIVE SHELVES, SHADOW BOXES

Distinctive shelves, 8 shadow boxes. No. 300 . . . \$1.50.

MODERN WOOD FINISHING INSTRUCTIONS

No. 235 . . . \$0.50.

18 DESIGNS FOR WEATHERVANES

No. 269 . . . \$1.00.

22 LAWN NOVELTIES

Have artistic touch not ordinarily found in such projects. Full-size patterns. No. 299 . . . \$1.50.

27 BIRD HOUSES, FEEDERS

Small wren house to large colony house for martins. No. 253 . . . \$1.00.

BAR-B-Q APRONS 7 designs, full size patterns. No. 376 . . . \$1.50.

CLOWN PICTURES — Paint by number. 4 designs. No. 357 . . . \$1.50.

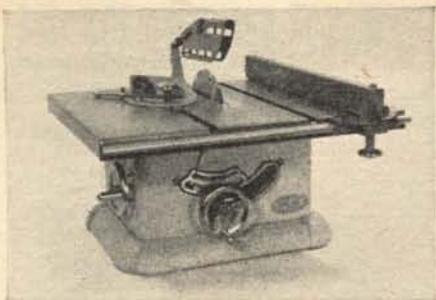
PLANTERS — 21 Designs. PLANT STANDS, HANGING GARDENS. No. 337 . . . \$1.00.

13 STURDY WORKBENCHES

Complete plans. No. 211 . . . \$1.00.

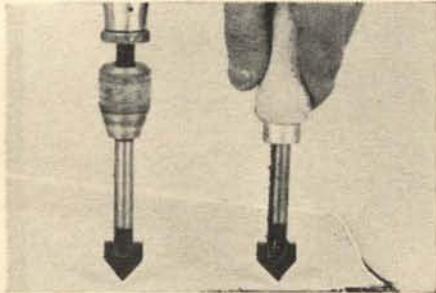
13 Designs WOOD INLAY PICTURES

No. 315 . . . \$1.00.



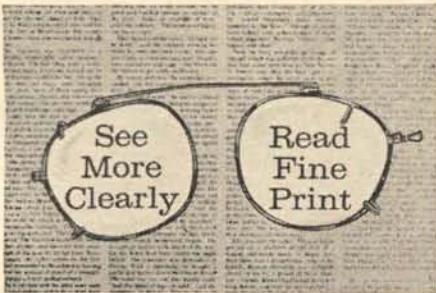
New 8" Tilt Arbour Bench Saw

Save! Buy direct from manufacturer. Fast professional workmanship is yours with this precision built circular saw. Rugged quality assures complete accuracy on any job — mitering, grooving, cross cutting, ripping, etc. Its superiority over hand tool arrangements has been clearly proven. Features sealed-for-life ball bearings. Price is \$42.50 express coll. Will pay for itself time and again on home projects. For information: Sutton Mfg. Co., Box 121, Buffalo 5, N. Y.



The Smith Super Drill

Ideal for drilling around home and plant—drill holes through tile, plaster, brick, cement or cinder block, glass, ceramics, hardened steel, stone, slate, concrete and wood. The Smith Drill can be used as hand tool or inserted into power drills. Sizes and prices: 1/32 (\$4.00), 3/64 (\$4.50), 1/16 (\$5.00), 5/64 (\$5.50), 3/32 (\$6.00), 1/8 (\$2.75), 1/4 (\$3.00), 5/32 (\$3.25), 1/2 (\$3.75), 3/8 (\$4.25), 5/16 (\$5.75), 1" (\$8.00). Smith Tool Co., Inc., Box 94, Glen Ridge, N. J. Guaranteed.



Slip-On Magnifiers — \$2.98

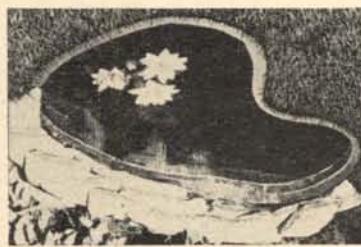
Having trouble seeing fine print and close detail work? Slip these magnifiers on your prescription glasses and see clearer instantly! Powerful 2.50 diopter lenses. Fits all glasses. Low \$2.98 postpaid price saves you at least 25% over usual price. Money-back guarantee. Return postpaid within 30 days for full refund if you are not completely satisfied. State age when ordering. Nel-King Products, Inc., Dept. WB-33S, 811 Wyandotte, Kansas City 5, Missouri.

Shoppers'

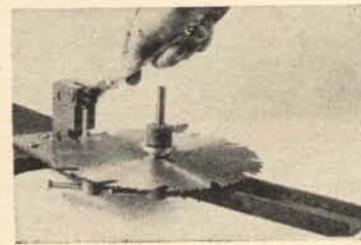
IF YOU ARE INTERESTED in a part-time business in a field that is interesting and challenging, investigate this home-study course that teaches you to be a specialist in the burglar-alarm field. No big investment is required, and you need no mechanical ability nor previous experience. Experts show you the secrets of the burglar-alarm business and how to make a profit. For information: Nasco, 11071 Massachusetts, Dept. P23, Los Angeles 25.



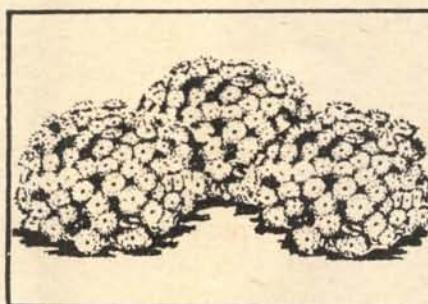
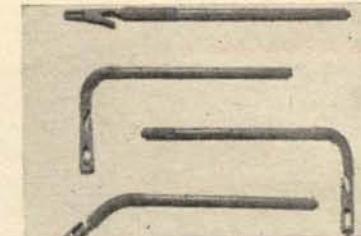
EASILY INSTALLED, this lightweight pool is made in one piece of aqua-colored plastic, has recessed water-lily pot. Size is 2 ft. 3 in. by 3 ft. 5 in., 8 in. deep. Pool has artistic "kidney shape", free water-lily bulb given with each pool. Dress up your yard or garden; display live gold fish, exotic and beautiful water plants. \$3.98 complete, 2 for \$7.65. Add 50 cents for postage. Michigan Bulb Co., Dept. BP 1608, Grand Rapids 2, Mich.



CIRCULAR SAW BLADES from 4 to 20 in. in diameter are handled by this saw-tooth setter. It is adjustable for any degree of set, thus ends guesswork of old hammer method with eyesight setting. Fast, consistently accurate tooth for tooth. Universal locking cone mounts and centers blade automatically. \$22.50, money-back guarantee. Steel-plate construction. Holst Mfg. Co., 3111 Cricklewood St., Torrance, Calif. Dealer inquiries invited.



WITH A MAGNET on one end, alligator clamp on the other, this handy little tool has dozens of uses around the shop. Will hold tacks and brads in position while you hammer them home, will reach those steel items that fall behind the bench. Shank is aluminum, steel spring at clamp end permits it to bend around a corner. Alligator clamp is steel. Tool is 7 1/2 in. long. Double-End Tool is \$1.00 from L. Stahl Mfg., 3166 Wadsworth, Saginaw, Mich.



Pre-season Cushion Mum Offer

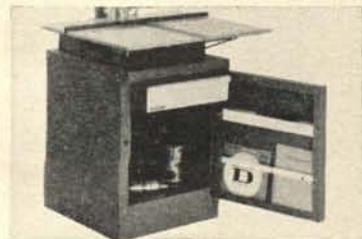
Order now, pay later on spring arrival at 1/2 catalog price to get new customers. Normally develop to bushel basket size when mature. Assorted colors as available, hardy root divisions from nursery grown stock. Order by April 1 and get Free #3 Tuberose (USA grown). 10 for \$1—30 for \$2.50 plus C.O.D. postage. Cash orders add 35c, sent postpaid. Must bloom this fall or replaced free. Michigan Bulb Co., Dept. CB-1608, Grand Rapids 2, Mich.



Septic Tank Trouble?

Northel Reactivator works to keep septic tank and cesspool clean. A bacterial concentrate breaks up solids and grease—works to prevent overflow, back-up, odors. Regular use can save costly pumping or digging. Simply mix dry powder in water, flush down toilet. Non-poisonous, non-caustic. Guaranteed to reactivate septic tank, cesspool. Six months' supply (23 ozs.) only \$2.95 postpaid. Northel Distributors, WM-3, P.O. Box 1103, Minneapolis 40, Minn.

Showcase



UP TO FOUR DRAWERS can be fitted in this new utility cabinet designed for use with a DeWalt Power Shop. Wrenches, saw blades, instruction books, shaping heads and other often-used accessories can be stored in the door. Accessory toe-lock casters permit the cabinet to be easily moved about. Not shown is a new roll-away leg stand. For information: William F. Kinderwater, Sales Development Dept., DeWalt, Inc., Lancaster, Pa.



MODERN LUMINOUS CEILING that provides even, diffused light throughout a room can be installed by any do-it-yourselfer. Translucent fiber-glass panels are supported on aluminum framing. Pre-cut panels and all materials are available to fit ceilings of rooms of any size and configuration. Full instructions for installing ceilings, how to measure in free booklet CS-962 from Alsynite Div., Reichhold Chemicals, Inc., San Diego 9, Calif.



New Nel-King Wallpaper Remover

No expensive steaming, no tiresome scraping. Mix 2 ozs. in a gallon of water. Apply with rag, brush, sponge or spray. Penetrates, loosens adhesive, paper "skins off" in minutes. Works on several layers of paper and painted-over wall paper, too! Safe. Only 98¢ plus 25¢ handling, for 6 oz. bottle; Pint \$2.49 postpaid. Guaranteed. Money back if returned postpaid in 30 days. Nel-King Prod., Dept. WB-33K, 811 Wyandotte, Kansas City 5, Mo.



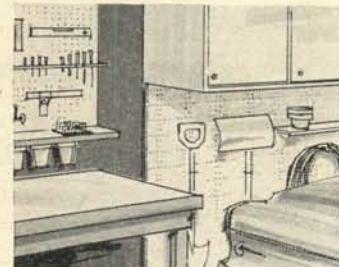
1. Fences of distinctive design



2. Wall desk with optional chalkboard front



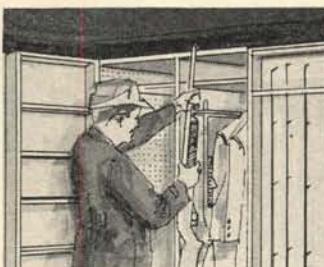
3. Remodeled attic



4. Garage interior remodeling



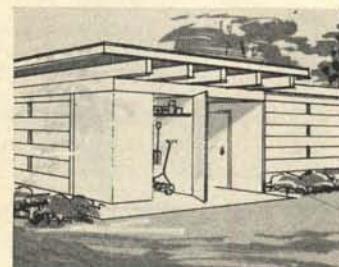
5. Picnic table and benches, lawn chair



6. The sportsrobe



7. Room divider with desk and wardrobe



8. Woven carport wall with tool room

FREE from Masonite: 66 "IDEA PLANS"

to add to your family enjoyment



MASONITE shows the way!

Masonite is a registered trademark of Masonite Corporation



Masonite Corporation, Dept. WK-3 Box 777, Chicago 90, Illinois
Please send me free "Idea Plans" booklet and Plan No. (one only).

NAME _____

ADDRESS _____

CITY _____ ZONE _____

COUNTY _____ STATE _____



MAKE \$20 to \$30 A WEEK EXTRA MONEY

Here's a practical way to increase your income and build security for your family. Earn extra money every week by filing saws with a Foley Automatic Saw Filer. You can actually build your own business with it—without special training or previous experience.

TURN YOUR SPARE TIME INTO CASH. Make from \$3 to \$6 an hour evenings, week-ends. Start in your basement or garage. No canvassing. "I advertised in our local paper and got in 83 saws"—says M. L. Thompson. Every saw you sharpen with the Foley Filer brings you more customers. Hundreds are making extra money this way, the easy way. You can too.

"Money Making Facts" explains how you can get business from home owners, farmers, carpenters, schools, factories, etc., how to build your business and expand—every step of the easy way. Don't wait. Mail coupon now for this exciting book and easy pay plan. No salesman will call.

FREE BOOK SHOWS YOU HOW TO START

MAIL COUPON FOR FREE BOOK

FOLEY MANUFACTURING CO.
3105-3 Foley Bldg., Minneapolis 18, Minn.
Rush free book, "MONEY MAKING FACTS",
and details on easy pay plan.

Name _____
Address _____
City _____ State _____



New Isotronic Training Method

LEARN TV REPAIR IN ONE SHORT WEEK!

Now, after 5 year's research—a streamlined training system that *obeys all others!* In just 7 days you may earn \$150 weekly, without paying up to \$250 for training, studying long months! Developed by electronic scientists in cooperation with major TV mfr's, the new Isotronic method is the most practical ever devised! For conclusive proof, write for details and **FREE SAMPLE LESSON**. Use it on your own set or a friend's—repair it—convince yourself you can make big money immediately in your own TV business! Hurry—Free Lesson, revealing PLANS. Write:

TV SERVICING SYSTEMS, Dept. J793
1038 So. La Brea, Los Angeles 19, Calif.



Build Your Own COLONIAL FURNITURE

10 detailed plans with
easy to follow "exploded"
drawings. Individually
printed on heavy paper.

Only \$1

Includes Buffet Base and Top,
Grandmother Clock Case, Hutch,
Dry Sink—and others
FREE LITERATURE

Plan-of-the-Month Club
Box 377, West Sacramento, Calif.

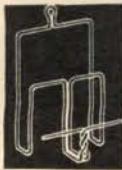
JOINTER OWNERS

"HERE IS GOOD NEWS FOR YOU!"

NOW! At last you can set your knives to a tolerance EQUAL to or BETTER than the original factory setting with this precision KNIFE-SETTING GAUGE
\$2.95 Postpaid—
Check, Money Order or C.O.D. plus charges.

CHECK THESE FEATURES: Minimum setting time • True horizontal alignment of knives with rear table • Settable in .001" increments • 30 seconds to set • Instrument shipped subject to your approval on our 10-day money-back trial offer.

CRAFTLINE TOOLS, DEPT. W
203 So. Sierra Vista • Monterey Park, California



WIRECRAFT

Incredible things you can make from coat hangers—wire products that are useful, needed and saleable . . . dozens of newly invented articles anyone can make without special tools. Easy, interesting and profitable. All instructions, drawings, and pictures in new Mechanicraft manual \$1.00 ppd.

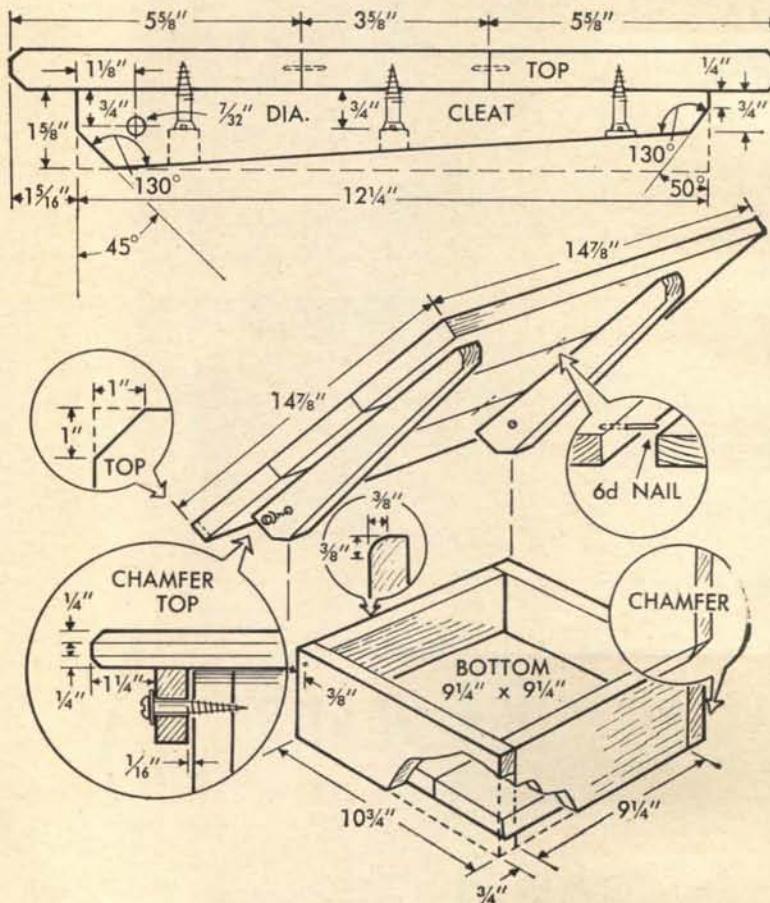
JOSEPH AHLERS & CO. Box 24032, Cincinnati 24, Ohio



All-Purpose Table

joints. Glue up stock for the table top and compartment bottom. Use glue on all joints in the table, as well as 1 1/4-in. No. 8 flathead screws. Glue the joints, drive in a 3d finishing nail to hold the pieces together, then drill pilot holes and countersinks. Drive in the screws, then cover both nail and screw heads with wood filler.

Drill the top cleats for 2-in. No. 10 roundhead brass screws that act as pivots, then attach the cleats to the underside of the top. Assemble the compartment and chamfer corners and edges. Round off the back edge 1/8 in. so the top will swing freely up over it. Assemble the four post strips with braces; assemble the pedestal feet and brackets. Join posts to feet and brackets. Now,



NOW... Start Enjoying "THE BEST of TWO WORLDS"

2½ ACRES

JUST 1½ MILES from ELKO, NEVADA

\$10 DOWN / \$10 PER MONTH / FULL PRICE \$595.00
NO INTEREST NO CARRYING CHARGES

MEADOW VALLEY RANCHOS



BOOMING NEVADA IS EQUATED BY ONLY A FEW PLACES IN THE WORLD. Population has surged Westward in ever increasing numbers. Westward to Nevada, where the air is fresh and clear, taxes are low or non-existent and opportunity is open to all. Yes, Nevada is booming and real estate investors are prospering. It is a proven fact that many purchasers of Nevada acreage have realized fabulous profits from small investments. Now, a NEW Nevada Real Estate Opportunity exists for you. This Ground Floor Opportunity is MEADOW VALLEY RANCHOS, located only 1½ miles from the thriving city of Elko, Nevada.

THE VERY BEST FEATURES OF TWO WORLDS

... THE WORLD OF THE WEST: Located in prosperous Elko County, the ranchos have the backdrop of the majestic Ruby Mountains. The sparkling Humboldt River is a short ½ mile away. Every Rancho fronts on a graded road that leads into coast to coast U.S. Highway 40. Amidst these spectacular surroundings MEADOW VALLEY RANCHOS owners can relax and enjoy the wonderful life of the Golden West.



FISHING: In jewel like lakes, and mountain fed bottom streams you'll catch trophy size German Browns, Rainbow and Brook Trout... large mouth fighting Bass. RANCHO owners can catch their dinner within easy driving distance of the property lines.

... THE WORLD OF CITY CONVENiences: The bustling city of Elko with its modern schools, shops, theaters, hospital and airport is only 1½ miles away. The Experienced, Successful Developers of MEADOW VALLEY RANCHOS are not offering remote land where purchasers have to hope for progress and expansion. They offer you the opportunity of a life time, a chance to participate in Nevada's continuing boom... Minutes from the conveniences of hospitable Elko, in the midst of current growth and progress, MEADOW VALLEY RANCHOS has all the necessary ingredients to skyrocket in value!

FOR ALL THE FAMILY: MEADOW VALLEY RANCHO owners enjoy the FREE use of Nevada's many state recreation areas. Swimming, Camping, Boating, Picnicking, Rock Hunting, Horseback Riding and many more recreational opportunities are available.

PROVEN OPPORTUNITY: Yes, individuals are taking advantage of Nevada opportunity. But the country's financial experts, our leading corporations are also investing in their Nevada futures. Industrial giants build plants where Increasing Land Values and Population demand them. Anaconda Copper has completed at \$32,000,000 plant. North American Aviation, Kaiser Steel and Curtis-Wright are building plants or have secured large acreage.

LOW OR NON-EXISTENT TAXES: As a result of Nevada's low realistic tax structure, Profits And Wages Are Kept; not paid out to the state. NEVADA HAS NO STATE INCOME, INHERITANCE, CORPORATION OR GIFT TAX. The low real property tax is definitely limited by the state constitution. YES, NEVADA IS ONE OF OUR LAST FRONTIERS OF TAX FREEDOM!

RECREATION UNLIMITED:



GOLF: A mere one mile from MEADOW VALLEY RANCHOS is the Ruby View Golf Course. No rush for starting times on this city owned and maintained golf course,

but golfing as it should be enjoyed. Play a leisurely 9-18 or 36 holes surrounded by breathtaking scenery, minutes from your rancho.

TOTAL COSTS: The full price of the title to your 2½ acre Rancho is only \$595.00. Complete payment schedule is \$10.00 down and \$10.00 per month. No interest, no carrying charges. Live, Vacation or Retire on your land, or simply hold for investment security. Wise men like Andrew Carnegie said, "More money has been made in Real Estate than in all industrial investments combined." Make MEADOW VALLEY RANCHOS' PROSPEROUS FUTURE — YOUR FUTURE. DON'T MISS THE GOLDEN OPPORTUNITY!

HUNTING: Hunters from all corners of the globe come to Elko County to hunt the big game species Mule Deer... Quail, Chukar, and Partridge are found in abundance.

MEADOW VALLEY RANCHOS 1616 Stockmen Bldg., Elko, Nevada

Yes! — Reserve acreage at MEADOW VALLEY RANCHOS for me — 2½ acre parcel, \$595 — payable \$10 down, and \$10 a month — no interest no carrying charges. Send purchase contract and map showing exact location of my holding. You will return my deposit if I request same within 30 days. I enclose deposit for each 2½ acre rancho desired.

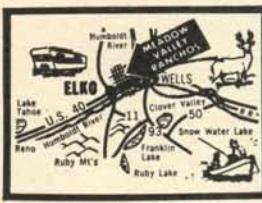
MAIL COUPON TODAY

Name: _____

Address: _____

City: _____ Zone: _____ State: _____

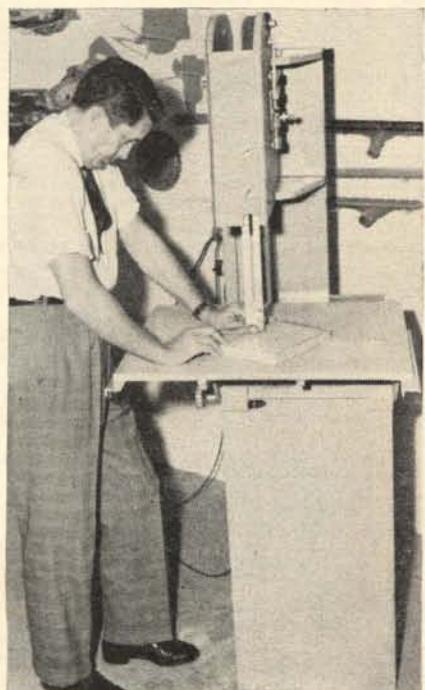
Indicate No. of Ranchos _____ Total enclosed \$ _____



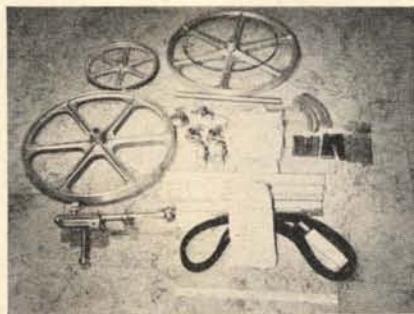
MEADOW VALLEY RANCHOS
1616 Stockmen Bldg.
Elko, Nevada

SIZE ACRES	DOWN	PER MO.
2½	\$10	\$10
5	20	20
7½	30	30
10	40	40

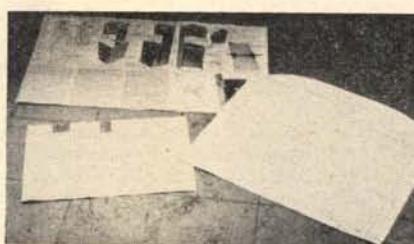
When bandsaw was completed it was used extensively on soft and hardwoods of various thicknesses; cuts clean.



Kit we used has all parts, except wood, for building band saw. Our kit had cast-aluminum wheels; some do not.



Full-size patterns of most parts are supplied, making it easy to cut out components. Instructions are clear.

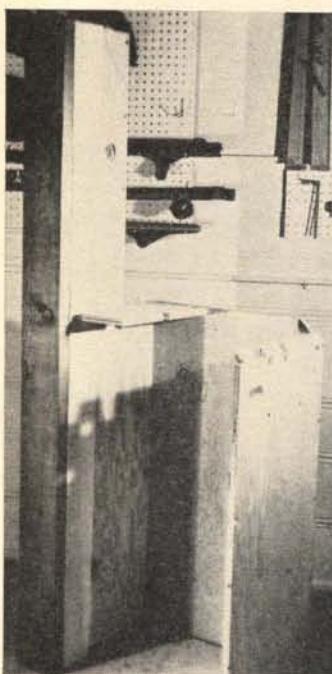
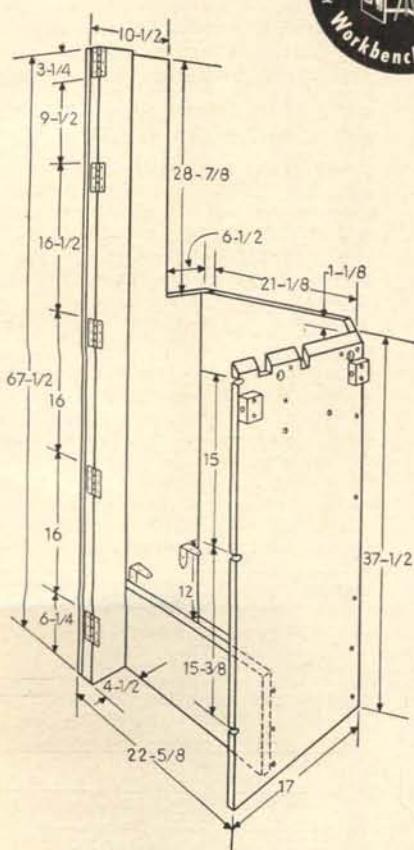


TO ENABLE us to give an accurate answer to a number of requests for information on kit-built power tools, we obtained a band saw kit and built the saw in our Model Shop. Our kit was complete with all hardware, including two cast-aluminum wheels for the saw blade. Kits are available that include only the wheel hubs. You turn the wheels from plywood, using the partially-assembled saw as an improvised lathe. Full instructions for turning the wheels are included in the detailed and illustrated instructions for making the saw. Also included are full-size patterns for those wood parts that require shaping.

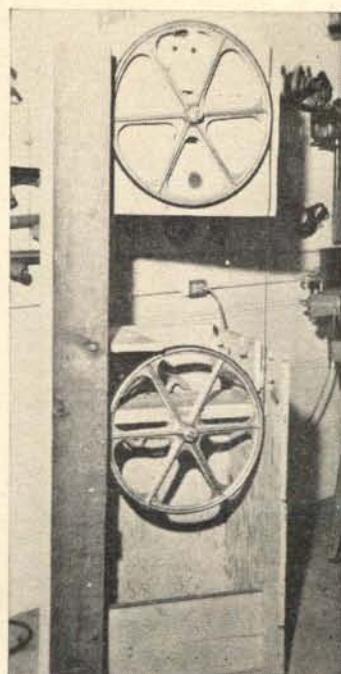
We encountered no problems in the assembly, a matter of screwing together various pieces. We did, in some cases, use longer wood screws than those supplied with the kit, as the lumber we used was slightly thicker than that listed. The completed saw is powered with a 1750 r.p.m. $\frac{1}{4}$ HP motor we had in the shop, and it runs smoothly, cuts cleanly. We award it our WORKBENCH seal.

For more information: Gilliom Power Tools, 1109 N. 2nd St., St. Charles, Mo. △ △

KIT-BUILT BAND SAW



Partial assembly of wooden members shows how back is stiffened with lumber.



Here wheels and blade have been installed, motor and mount go under lower wheel.

HEATHKIT CATALOG

STEREO HI-FI COMPONENTS • AMATEUR RADIO GEAR • TEST & LAB EQUIPMENT
MARINE EQUIPMENT • SCIENCE KITS • EDUCATIONAL KITS • WIRED EQUIPMENT



HEATH COMPANY
BENTON HARBOR, MICHIGAN
PLANT LOCATION: ST. JOSEPH, MICHIGAN
A subsidiary of Daystrom, Incorporated
CATALOG 61-90

one-
stop
shopping

for the world's
largest selection
of electronic kits

FREE! 1963 HEATHKIT CATALOG • MORE KITS • GREATER VALUES

(catalog request forms on reverse side)

Fill in Your Name and The Name of an Interested Friend In The Upper Left-Hand Corner of The Postcards Below and Mail Today For Your FREE Heathkit Catalogs.

71

HEATH COMPANY
BENTON HARBOR, MICHIGAN

Please Send My Free Heathkit Catalog
 Name _____
 Address _____
 City _____ Zone _____ State _____

Place
5c
Stamp
Here

HEATH COMPANY
BENTON HARBOR, MICHIGAN

Please Send My Friend A Free Catalog
 Name _____
 Address _____
 City _____ Zone _____ State _____

Place
5c
Stamp
Here

1963 HEATHKIT CATALOG

Over 250 Kits



STEREO HIGH FIDELITY

From source to sound, there's more to choose from with quality Heathkits. Easy-to-build kits for record playing, tape recording, AM-FM-FM Stereo radio reception, stereo or mono amplifiers (tube or transistor types), speakers, systems, and cabinetry that save you 50% or more yet provide the finest in performance. Largest selection!



ELECTRONIC SERVANTS—TIME SAVERS—HOBBY KITS

A Heathkit for every interest, every need . . . a 23" custom-quality TV set, two-keyboard electronic organ, transistor intercoms, portable radios, car radios, transistor ignition systems, radio-controlled garage door openers, science kits, educational kits, short-wave receivers. Best values!



CITIZEN'S BAND RADIO

The world's biggest C-B radio kit line! Walkie-Talkies, transceivers, accessories . . . for private and industrial use. Choose the kit that fits your budget, that has the features you prefer . . . dual-purpose for fixed or mobile stations, selective-calling for privacy, multiple channels for versatility, matched antennas for best performance. Finest quality!



MARINE RADIO GEAR

Exclusive Heathkits for greater marine fun and safety! For inboards, outboards, yachts, cruisers, or rowboats! Choose high or medium power radio-telephones, radio direction finders, depth sounders, chargers, inverters, tachometers, and antennas. Easy-to-build Heathkits with quality performance you can trust and 50% savings! No experience needed!



TEST EQUIPMENT

Hobbyists, technicians, and engineers rely on Heathkit test and lab gear for dependable performance at lowest cost. Largest selection of meters, signal generators, analyzers, testers and computers for every need and budget. World famous!



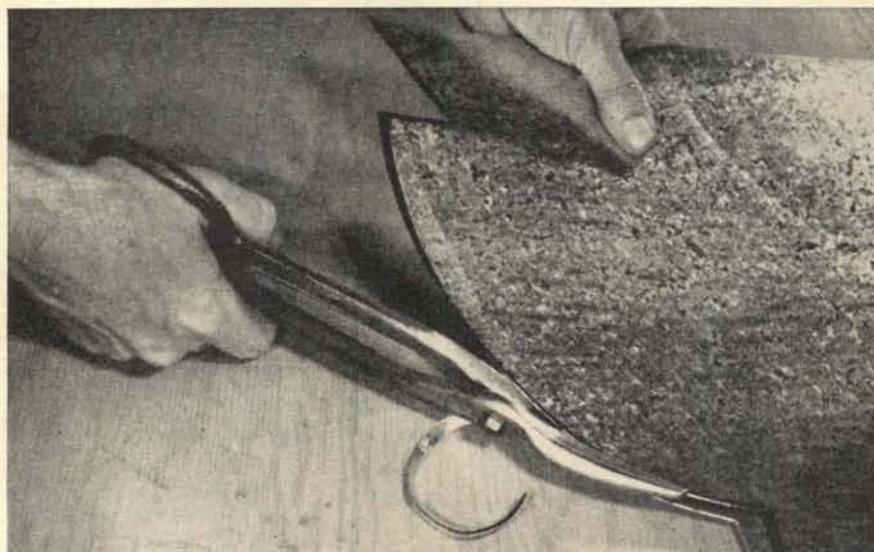
HAM RADIO

Amateurs of all nations use Heathkit amateur radio equipment for world-wide communications. Latest techniques, greatest versatility, finest features. Fixed station and mobile receivers, transmitters, transceivers, complete accessories. Biggest savings!

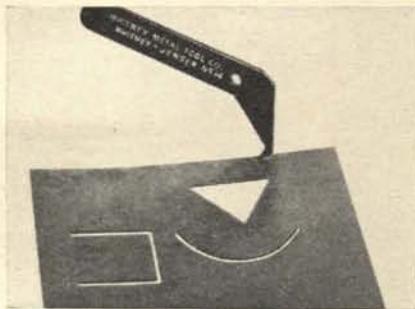
HEATHKIT—pioneer and world's largest manufacturer of electronic kits

71-1

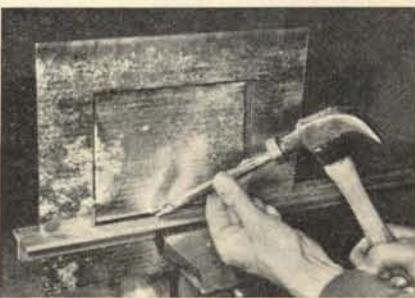
Working with SHEET METAL



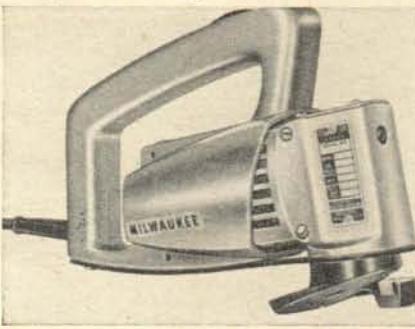
1. Combination snips here are being used to cut arc, following line that has been scribed on the metal surface that first was coated with bluing.



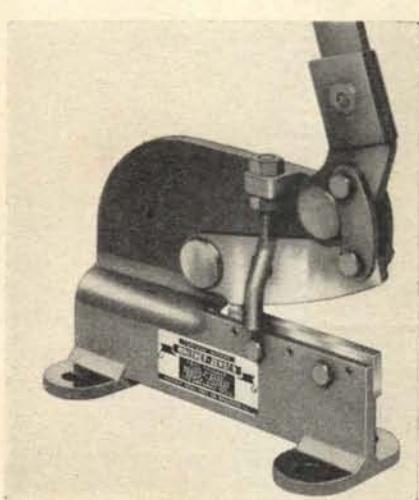
2. Point of this tool is tapped through metal, then tapped forward.



3. Sharp cold chisel slides along clamped steel angles to cut metal.



4. Portable electric shears cuts up to 16-ga. mild steel, leaves smooth edges.



5. Bench-mounted shears cut up to 10-ga. metal, also flats and rounds.



FIGS. 2, 5, 6, 9, 10, 11, 12 AND 13 COURTESY WHITNEY METAL TOOL CO.

SHEET METAL CAN BE CUT in various ways. The proper tool to use depends on the thickness and hardness of the metal, whether cuts are to be straight or curved, on the radii of arcs and circles, and other considerations.

Hand snips are the most common cutting tool and will be discussed at some length. Fig. 1 shows an arc being cut with a combination snips, also shown in Fig. 7-C. A new type of simple hand shears is shown in Fig. 2. In use the point of the tool is tapped through the metal after which the tool is tapped forward, removing a 3/32-in. strip.

You can make straight shearing cuts with a sharp cold chisel. This is a good method of making square and rectangular cutouts as in Fig. 3. The work is placed between two lengths of steel angle held in a vise so the scribed line for cutting is in line with the steel angle.

The portable electric shears in Fig. 4 makes both straight and curved cuts, gives an unobstructed line of vision, leaves smooth edges, and has a capacity up to 16 ga. in mild steel. The bench-mounted shears, Fig. 5, cuts 10-ga. metal, and also shears 3/16 x 2-in. flats and 7/16-in. round stock of mild steel. Fig. 6 shows a throatless rotary shears for making straight or irregular cuts through 12-ga. mild steel at the rate of 9 ft. per minute.

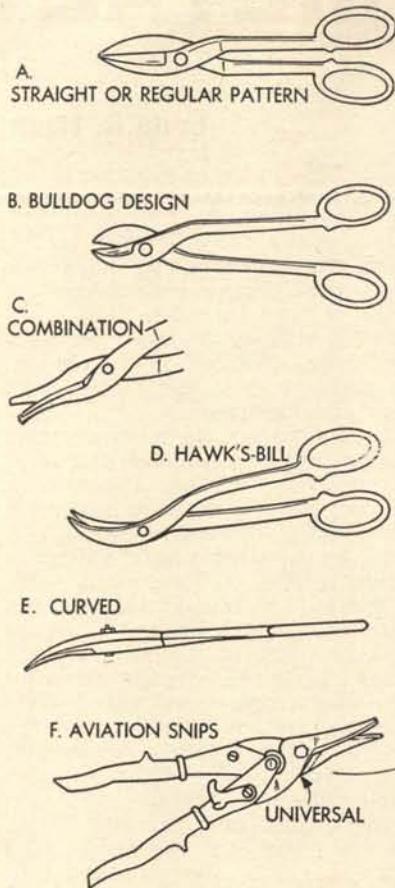
Motor-driven and bench-type machines save considerable time for those who do considerable sheet-metal work as a hobby or are starting a small production business. In the latter case, squaring shears and a ring-and-circle shears are important cutting tools that assure accuracy and save time.

The larger sizes of hand snips such as those detailed in Fig. 7 are designed to cut mild steel up to 18 gauge. Stainless steel and other hard steels will dull ordinary snips and should be cut with snips having specially hardened blades.

Straight or regular-pattern snips, Fig. 7-A are for straight cuts only. The bulldog design, detail B, is similar in purpose but requires less

6. Throatless rotary shears cut straight or irregular lines through 12-ga. steel.

TYPES OF TINNER'S SNIPS



8. When cutting an inside circle with aviation snips, hole is punched near center of circle, then snips are inserted and cut made spirally to line.

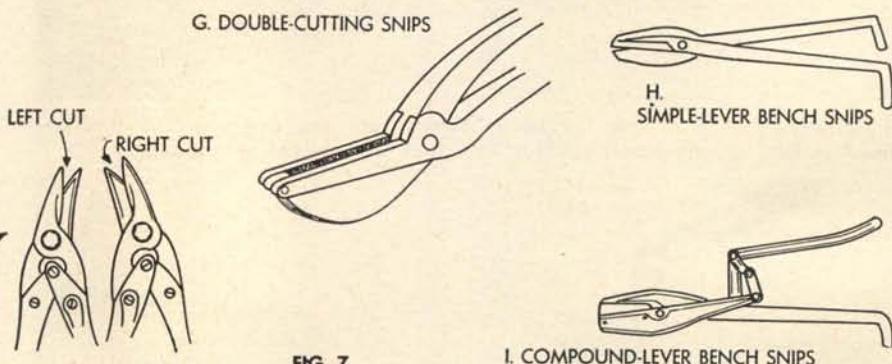
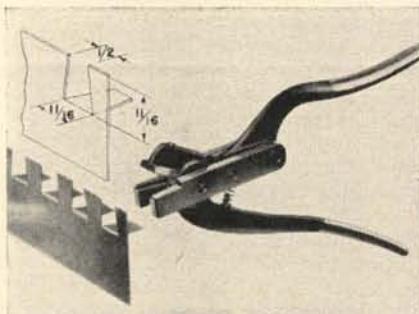
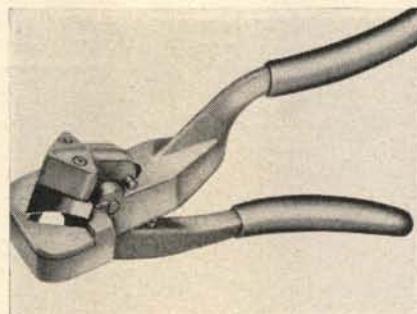


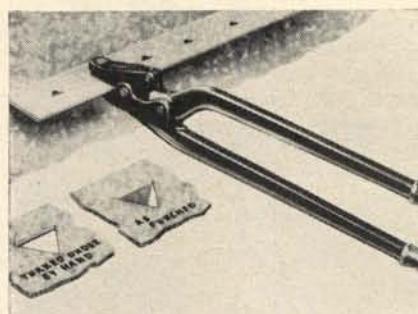
FIG. 7



9. Dovetail notcher cuts and bends light-gauge sheet steel.



10. Notching snips cut 45 or 90-deg. notches in one operation.



11. This tool forms locking clips on flange joints. Tab is turned under.

effort because of its greater leverage. Combination snips, details C and D, make both straight and curved cuts because the blades are convex on the outside. The hawk-bill design is especially handy for cutting curves in confined areas because the handles extend above the work. Curved-blade snips, detail E, are designed for cutting circles of fairly large radii. Aviation snips, detail F, have compound leverage which greatly reduces cutting effort. Usually the blades are finely serrated to prevent slippage. There are three designs; one for straight cuts, the other two for right and left cuts. Fig. 8 shows

the use of aviation snips in cutting an inside circle. Double-cutting snips, detail G, are designed for cutting light-gauge pipe such as stovepipe without distorting it. They remove a narrow strip of metal. Simple-lever bench snips, detail H, have sharply bent handles, the lower one to fit a hole in a bench plate, permitting the tool to be operated with one hand. Compound-lever bench snips, detail I, have capacity for cutting 12 to 18-ga. mild steel. A dovetail notcher, Fig. 9, is a double-cutting snips that cuts and bends 20-ga. and lighter mild sheet steel in one operation. The notching snips, Fig. 10, are made

for cutting either 45 or 90-deg. V-cuts. A tool for forming locking clips on flange joints is in Fig. 11.

When handling sheet metal, and especially when using hand snips, gloves will help to protect your hands from the sharp edges. These edges can be dulled with a file, but it takes time.

After selecting the right snips for the job, start a cut right on the scribed line with the jaws opened as far as convenient for your grip. This makes cutting easier and gives better control. Keep the flat inside portion of the blades at right angles to the surface of the work. Otherwise the



12. Precision hand punch has capacity for holes up to $\frac{1}{4}$ in. dia. in 16-ga. mild steel, uses interchangeable punches and dies, can be bench mounted.

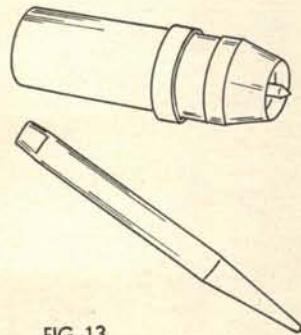
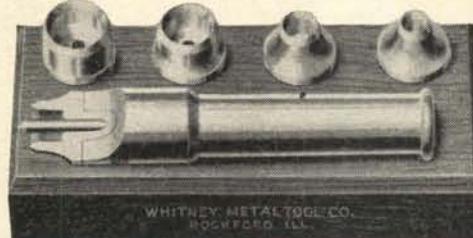


FIG. 13



13. Separate and interchangeable sheet metal punches are used by first placing metal on smooth end grain of hardwood block to assure neat hole.



14. Prevent jagged edges and distortion by using back-up block.

blades will wander from the line and cause burred edges. The only time that you intentionally incline the blades is to get back on a scribed line after drifting away.

Avoid closing the blades completely in metal as this leaves jagged edges, may tear the metal sideways and also distort it. Before the tips come together advance the snips for a new bite. When a cut is to stop in metal, proceed slowly to the finish point with the jaws spread apart for better control to avoid cutting too far. Cutting an outside circle from a square sheet will be easier if you first cut off the cor-

ners and the excess width or length. For inside circles, Fig. 8, first punch a hole near the center to permit inserting the lower blade, then work spirally toward the scribed line.

If you must exert excessive pressure when cutting, it is likely that the snips are too small for the thickness of the metal, or that they are dull. The most common misuses of snips are tapping the upper blade with a hammer or increasing the leverage with pipes slipped on the handles to cut stock beyond the capacity of the snips. Do not use snips to cut wire, nails or steel pins as this tends to nick the cutting edges. Keep the pivot and blades oiled. The pivot should be just tight enough so the blades slide together without play.

Small holes are punched or drilled in sheet metal for rivets or screws. Those for rivets and machine screws should be just large enough to accommodate them without play. Those for sheet metal screws should be slightly smaller than the screw diameter at the base of the threads near the head.

Fig. 12 shows a precision hand punch capable of punching $\frac{1}{4}$ -in.



INTERCHANGEABLE PUNCHES & DIES

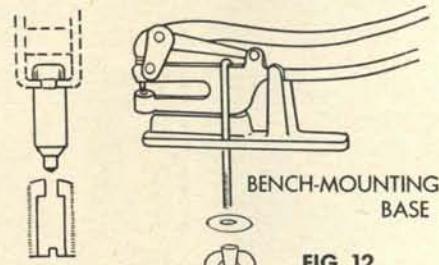


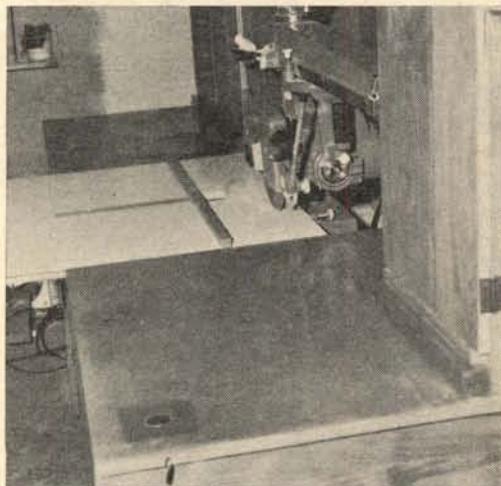
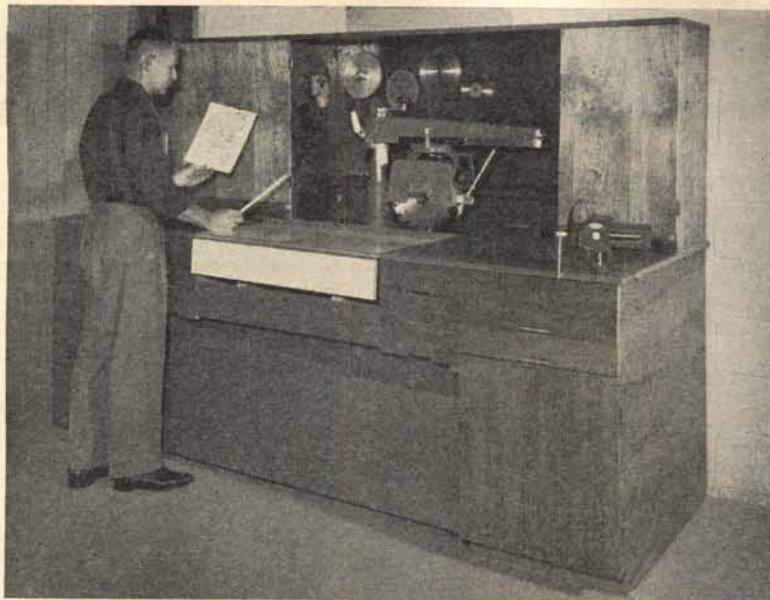
FIG. 12

holes through 16-ga. mild steel. It uses interchangeable punches and dies of various sizes up to $\frac{9}{32}$ -in.

Individual punches and those having interchangeable bits, Fig. 13, are used after placing the sheet metal on the smooth end grain of a hardwood block to assure a neat hole. The sizes vary from $\frac{3}{32}$ to 3 in. in diameter. Some makes have a centering point which is set in a prick-punched indentation. A prick punch must be kept sharp at an included angle of 40 to 60 deg. Where a prick punch is too small to properly seat a twist drill, use a center punch. This is slightly larger than a prick punch and has an included angle of 90 deg. or slightly less. When an indentation is not located accurately, it can be shifted by holding the punch at an angle while tapping it.

A hole that is too large to be made with a punch and too small for the use of snips can be made with a fine metal-cutting blade in a jigsaw or hand scroll saw. Or, you can form the hole by drilling small holes that barely overlap just inside of the scribed circle line, and then filing down to the line. When drilling sheet metal, place it against a smooth back-up block or board and hold both together firmly, which can often be done in a vise, as in Fig. 14. This prevents jagged holes and distortion of the metal caused by the break-through of the drill bit.

(To be Continued)



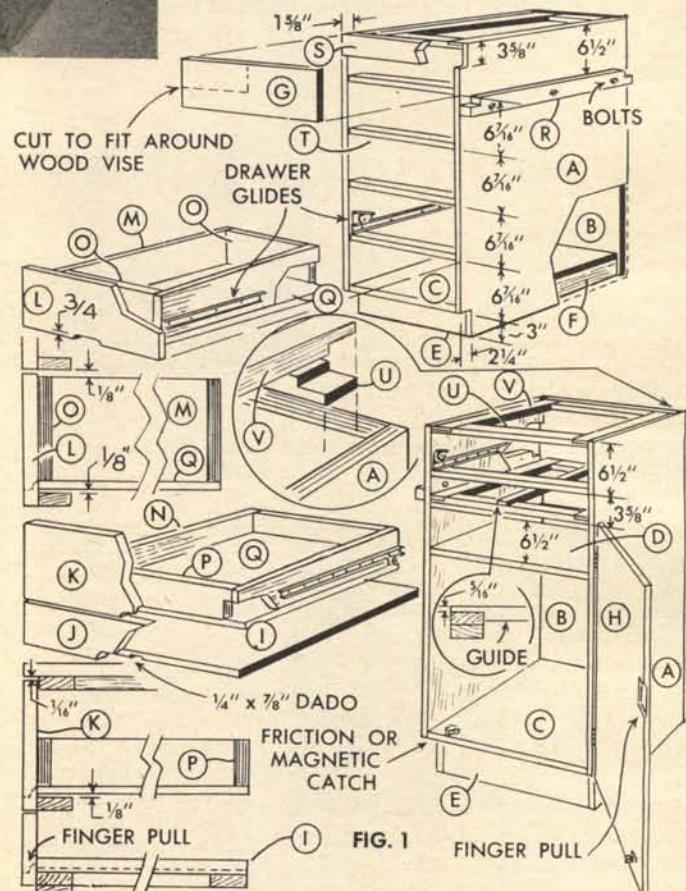
When vise base is recessed, top of bench is full 8-ft. length on which lumber and plywood can be handled and sawed.

REDESIGNED SEVERAL TIMES on the drawing board, further modified during construction, finally use-tested thoroughly, this attractive workbench utilizes fully the versatility of a radial-arm saw. A full line of accessories is stored in the bench, including a 30-inch lathe. The Versa-Vise is mounted on an optional base that is dropped flush with the bench top when the vise is not used.

Only 3 x 8-ft. floor space is required for this attractive, efficient workbench that utilizes radial-arm saw as power source.

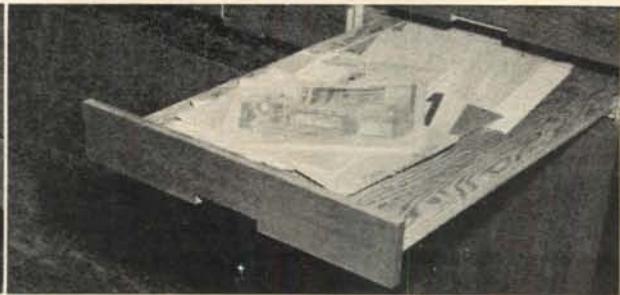
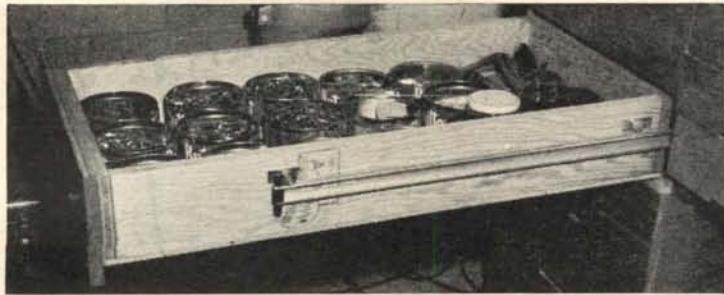
SHOP in a Workbench

PART I

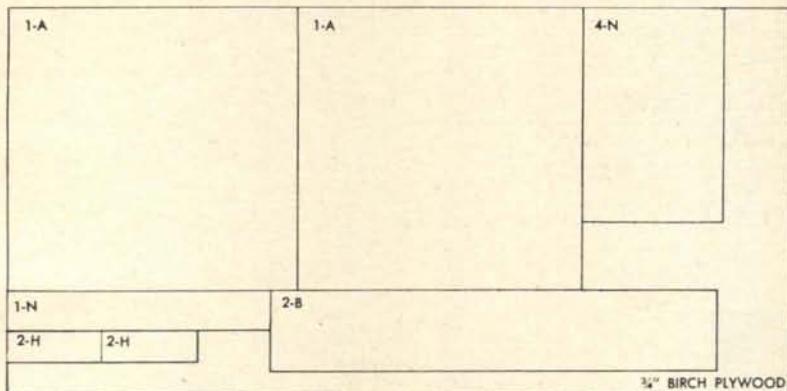


The bench top then is large enough to permit easy handling of 4 x 8-ft. sheets of plywood. Pivoting the saw arm back clears the top for other work. Provision is made for installing a woodworker's vise in the left-hand cabinet. Large drawers in the cabinets are fitted with Knape and Vogt No. 1400 drawer slides 34 in. long, permitting the drawers to be pulled out their full 36-in.

Because the workbench is fairly large, yet might have to be occasionally moved to another location, it is built in four units. The



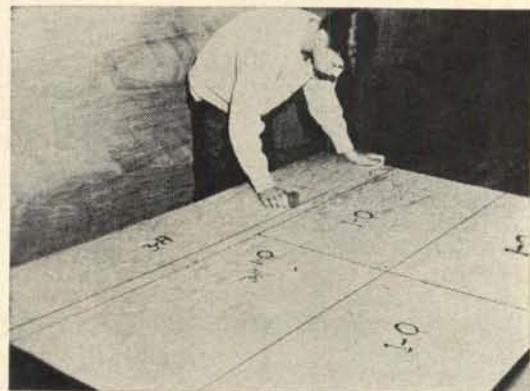
Heavy-duty drawer slides permit pulling out 36-in.-long drawers their full length so contents are reached readily, all space is usable. Pull-out slide is handy for drawings, sheets of instructions. No drawer slides are required for latter.



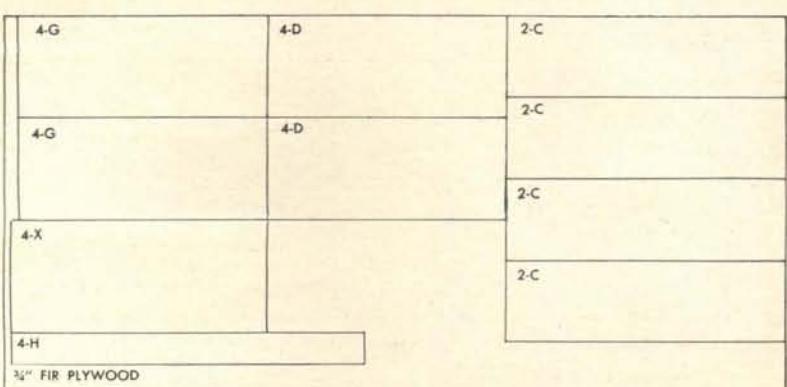
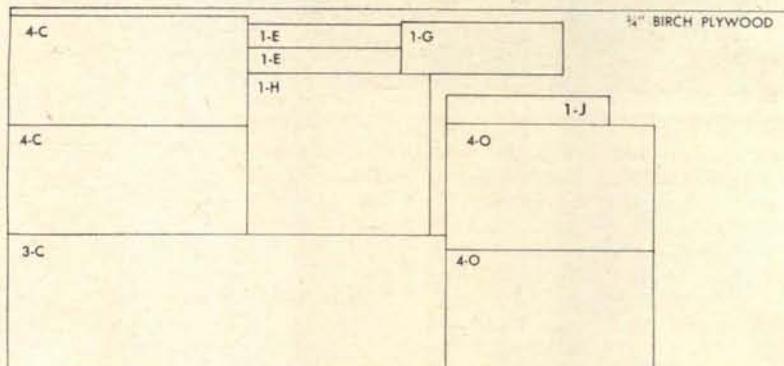
first unit is the two base cabinets, the second is the center framework that supports the saw plus the two tops. The third unit is the bench-top cabinets, the fourth is the dust-storage bin. Construction has been kept simple, mostly butt joints being used.

Building this workbench will be a fair-size project, so the base cabinets and center framework are described in this issue, the dust bin and bench-top cabinets will be described in the next issue. The base cabinets and center unit are designed to permit full use of the saw, however, without the dust bin and top cabinets. Cutting schedules for all plywood members are included in this first part of the article.

It was decided to use hardwood plywood for the original bench. At the recommendation of the United States Plywood Corporation, who provided the material, we used birch-faced plywood. This light-colored wood readily accepts any wood-tone stain, or almost any hue of the rainbow. Using fir



First step is to lay out various pieces on plywood sheets. Marks and legends here are heavy for photographic purposes.



Saw was set up in garage to cut plywood sheets, where there is plenty of room. Sawdust, large amounts, blew outdoors.



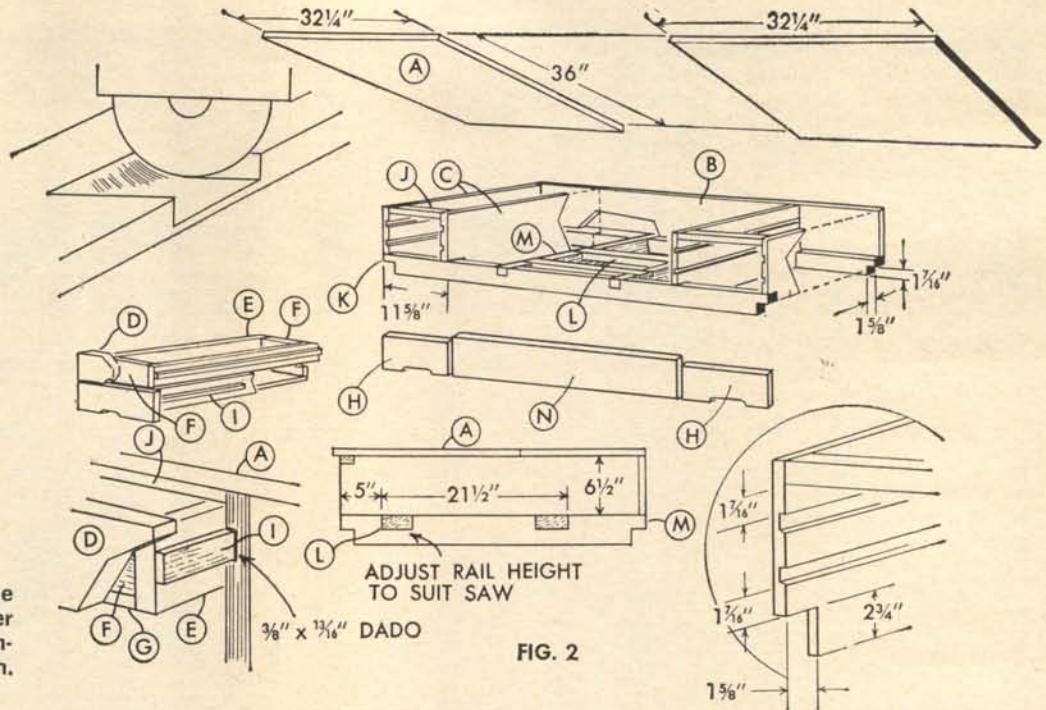
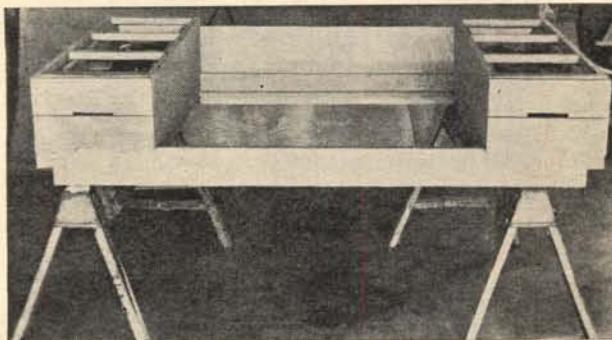


FIG. 2

Bench is four separate units: Base cabinets, center unit, (shown here), bench-top cabinets and dust bin.



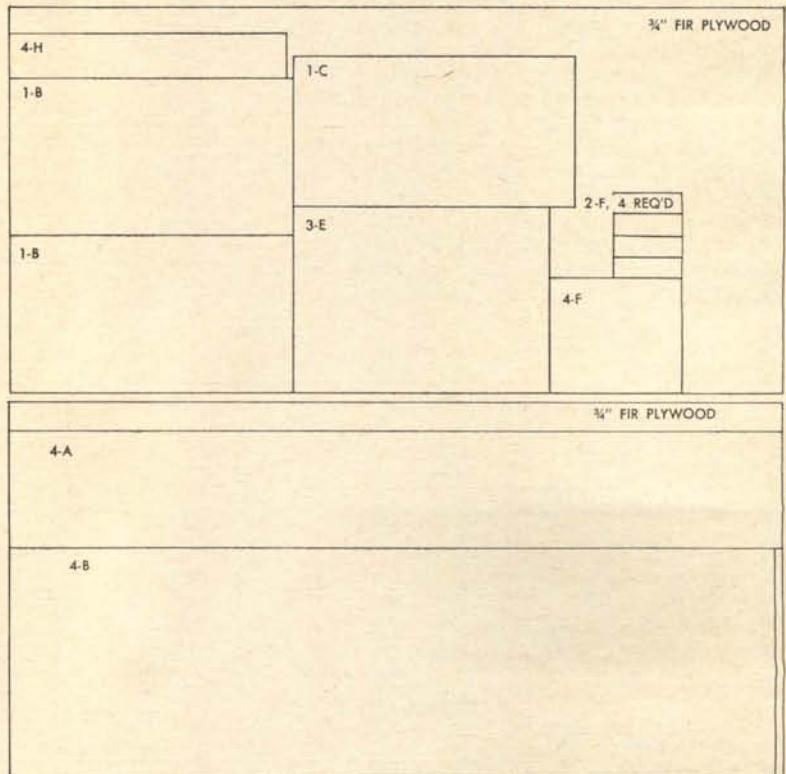
plywood would lower the cost of the bench, and an unusual finish, (See Fabulous Finishes For Fir Plywood, Nov.-Dec., 1962 issue), could be applied. Two coats of Fir-zite were applied to the plywood, each sanded, then Satinlac used as final finish.

Start construction by using the Materials Lists and drawings to mark the various pieces on plywood sheets. If you are going to build just the base cabinets, center units and tops, the cutting schedules will have to be refigured for the fewer pieces.

When you start assembly of the base cabinets, double-check the sizes of the 1-C cabinet floors and make the half-lapped 1 x 2 frames and rails to match the dimensions. On the original bench, Weldwood Contact Adhesive was used, which meant that all pieces had to be "dry-fitted" first, as the contact cement bonds instantly. The drawers are assembled, the slides attached and the drawers fitted. Finger pulls in the drawer fronts and door were made by raising the saw $\frac{1}{8}$ in. above the table, then sawing in so the center of the blade aligned with the edge of the stock, Fig. 2. A block clamped to the arm prevented the blade going deeper. A series of cuts was made to produce a finger pull 4 in. wide. The edge then was notched $\frac{3}{4}$ in. Brads now were

driven into the sub-fronts of the drawers, and the heads cut off. Contact adhesive was applied, allow to dry, then each drawer front was positioned $\frac{1}{8}$ in. from the adjacent fronts. The brads kept the fronts in position so the drawers could be pulled out and clamps used to force the fronts firmly into the adhesive.

After the pull-out slide was installed in the righthand cabinet, 12-in. strips were attached to the inside surfaces of the cabinet sides to prevent the slide from tipping down when pulled out.



The center unit of the bench is built as shown in Fig. 2. Rails L will have to be positioned to fit your own radial-arm saw. As shown in the drawing, the unit will accept the earlier models of DeWalt Power Shops. When we installed a new 10-in. DeWalt unit it was necessary to shim it up slightly. We did not fasten the saw; this permits it to be readily taken to a job site when necessary. The center unit of the bench is fitted on the 1-R brackets on the cabinets, then holes are drilled and four $\frac{1}{4}$ -in. bolts are used on each end to attach center unit and cabinets.

The assembly now was positioned in the shop, leveled by shimming and the saw placed on the center unit. The two tops were placed on the assembly, with $\frac{1}{8}$ -in. clearance between each top and the saw table. Wood screws in counterbored holes hold the tops to the cabinets. The holes were filled with wood putty, sanded flush. Weldwood veneer tape was applied to all exposed plywood end grain.

(To be continued)

Materials List, Fig. 1

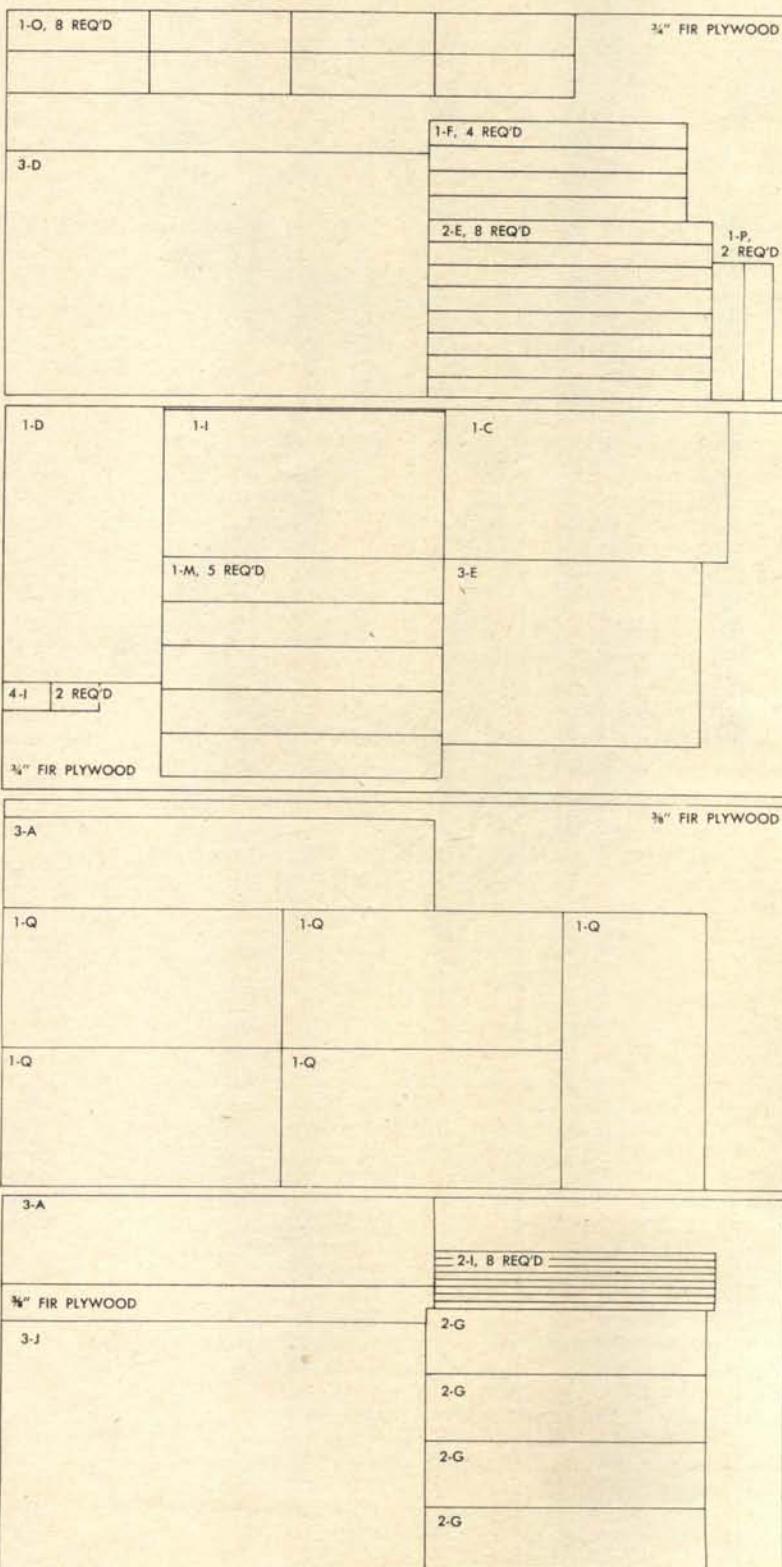
- $\frac{3}{4}$ " Fir or hardwood plywood
- A, Cabinet sides, $35\frac{1}{4}" \times 35\frac{1}{4}"$, 4 req'd.
- B, Cabinet backs, $18\frac{3}{4}" \times 35\frac{1}{4}"$, 2 req'd.
- C, Cabinet floors, $18\frac{3}{4}" \times 34\frac{1}{2}"$, 2 req'd.
- D, Shelf, righthand cabinet, $18\frac{3}{4}" \times 34\frac{1}{2}"$
- E, Cabinet bases, $3" \times 31\frac{1}{2}"$, 2 req'd.
- F, Cabinet ledges, $3" \times 31\frac{1}{2}"$, 4 req'd.
- G, Face, lefthand cabinet, $6\frac{1}{2}" \times 20\frac{1}{4}"$
- H, Door, righthand cabinet, $20\frac{1}{4}" \times 22\frac{1}{8}"$
- I, Pull-out board, $18\frac{1}{2}" \times 34\frac{1}{2}"$
- J, Front, pull-out board, $3\frac{1}{2}" \times 20\frac{1}{4}"$
- K, Front, righthand cabinet drawer, $6\frac{1}{2}" \times 20\frac{1}{4}"$
- L, Fronts, lefthand cabinet drawers, $6\frac{3}{8}" \times 20\frac{1}{4}"$, 4 req'd.
- M, Drawer sides, lefthand cabinet, $5\frac{7}{16}" \times 32\frac{1}{2}"$, 8 req'd.
- N, Drawer sides, righthand cabinet, $2" \times 32\frac{1}{2}"$, 2 req'd.
- O, Drawer sub-fronts and backs, lefthand, $5" \times 17\frac{1}{4}"$, 8 req'd.
- P, Drawer sub-front and back, righthand, $2" \times 17\frac{1}{4}"$
 $\frac{3}{8}$ " Fir plywood
- Q, Drawer bottoms, $17\frac{3}{8}" \times 34\frac{1}{4}"$, 5 req'd.
2 x 4 Solid stock
- R, Cross bars, $35\frac{1}{4}"$, 2 req'd.
- S, Rail, $20\frac{1}{4}"$, 1 req'd.
1 x 2 Solid stock
- T, Rails, $18\frac{3}{4}"$, 6 req'd.
- U, Front and back of frames, $18\frac{3}{4}"$, 6 req'd.
- V, Frame sides, $34\frac{1}{2}"$, 6 req'd.
- Miscellaneous
5 pr. drawer glides, Knape and Vogt No. 1400, 34"

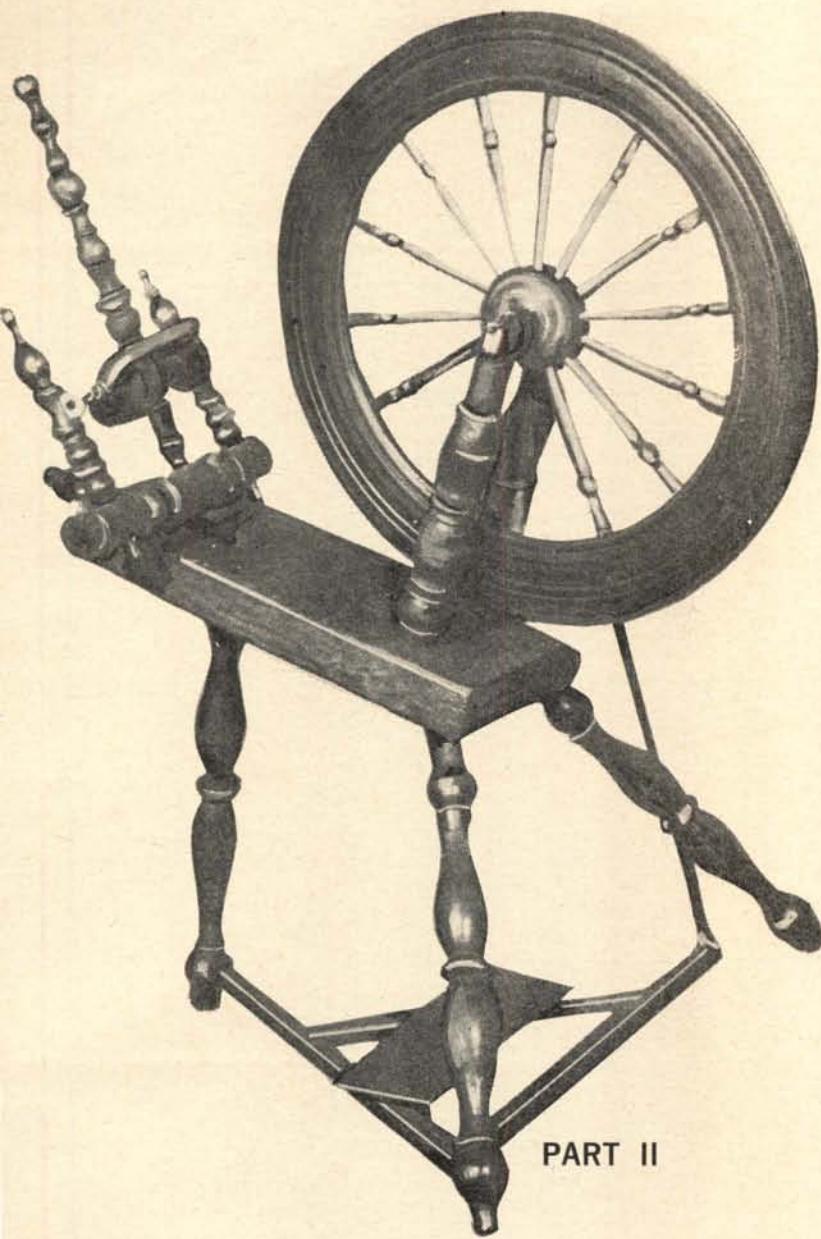
Fig. 2

Lebanex

- A, Bench tops, $32\frac{1}{4}" \times 36"$, 2 req'd.
 $\frac{3}{4}$ " Fir or hardwood plywood
- B, Back, $10" \times 55\frac{1}{2}"$, 1 req'd.
- C, Partitions, $10" \times 34\frac{1}{2}"$, 4 req'd.
- D, Drawer fronts, $3\frac{5}{8}" \times 11\frac{1}{2}"$, 4 req'd.
- E, Drawer sides, $2\frac{7}{8}" \times 34\frac{1}{2}"$, 8 req'd.
- F, Drawer sub-fronts and backs, $2\frac{1}{2}" \times 8\frac{3}{8}"$, 4 req'd.
- H, False-drawer fronts, $4" \times 11\frac{1}{2}"$, 2 req'd.

- N, Facing, $5" \times 32"$
 $\frac{3}{8}$ " Fir plywood
- G, Drawer bottoms, $8\frac{3}{8}" \times 34\frac{1}{2}"$, 4 req'd.
- I, Drawer guides, $\frac{3}{4}" \times 34\frac{1}{2}"$, 8 req'd.
1 x 2 Solid stock
- J, Rails, $10\frac{1}{4}"$, 2 req'd.
2 x 4 Solid stock
- K, Stringers, $55\frac{1}{2}"$, 2 req'd.
- L, Stretchers, $18\frac{1}{2}"$, 2 req'd.
- M, Rails, $34\frac{1}{2}"$, 2 req'd.





NOW THAT YOU HAVE MADE the spinning-wheel table, its legs, the great wheel and its posts you are ready to shape and install the carrier, Fig. 1, the distaff post and arm, Figs. 1 and 2 and the distaff holder and cap, Fig. 2. When assembled with four bows, Fig. 2, the type distaff shown sometimes was referred to as the "lantern" distaff, although this type was made in several forms. In all these parts that have transverse holes accepting other parts at right angles, always bore the holes before making the turning, as otherwise you will have difficulty centering the holes. Be sure to caliper the tenons to a moderately tight drive fit.

Threads on the tension screw must be cut with what is known as a screwbox, and the $\frac{5}{8}$ -in. hole in the carrier must be tapped with the wood tap that comes with the screwbox. If you cannot find a screwbox locally, several of our advertisers sell them by mail order. Craftsman Wood Service in Chicago has one.

Spinning Wheel

With all these parts made and trial-assembled, you are on the home stretch. Comes now a few more turnings, the parts of the flyer stand which consists of the lift, the bar and the uprights, Fig. 3. Holes in the bar must be drilled before you turn it into the round. Note in the detail, Fig. 3, that the $\frac{3}{4}$ -in. hole is positioned at an angle of 20 deg. in respect to the $\frac{1}{2}$ -in. holes. Many old wheels had the larger hole drilled at a much greater angle which inclined the flyer uprights forward, often at an angle of as much as 15 deg. with the vertical. On the wheel we are copying, the uprights, (or maidens, remember), stand vertically. Note also the $3/16 \times 1\frac{1}{4}$ -in. mortise in each of the uprights. These take the leather bearings for the flyer spindle, Fig. 5. The mortises must be made before the stock is turned into round. You will notice that the over-all length of the uprights and the height of the lift are not given. Cut the rough stock for the uprights to $14\frac{1}{4}$ in. and you'll have sufficient stock for turning. For the lift, cut a disk from $1\frac{3}{4}$ -in. stock.

In the assembly, the tension screw enters the $\frac{3}{4}$ -in. hole in the end of the table, turns through the tapped hole in the carrier, which fits in the $1\frac{9}{16}$ -in. round-end slot in the table, Figs. 4 and 5, Part I, and the tenon on the end of the screw enters the $\frac{3}{8}$ -in. hole in the end of the slot. Note the groove in the tension screw above the thread. This takes the end of a wooden pin that is driven into the $\frac{1}{4}$ -in. hole in the table top, Fig. 4, Part I. The pin holds the screw in place. Next, the lift fits over the long tenon on the carrier. Note that the top of the lift is contoured to seat the bar, Fig. 3. Then the bar is pressed down over the projecting tenon and there is your flyer stand, or mother-of-all. Turning the tension screw to the right draws the whole assembly forward to adjust the tension on the cords that drive the flyer. Now, the flyer assembly, Fig. 4: In the details the flyer proper is shown in the square, but you should work it down by rounding the corners neatly and sanding it smooth.

From this point on you will have to do some hand fitting. For example, the flyer spindle is shown a specific length and is made from a length of $3/32$ -in. brass rod, brass being used because it is easier to work and solder. But, do

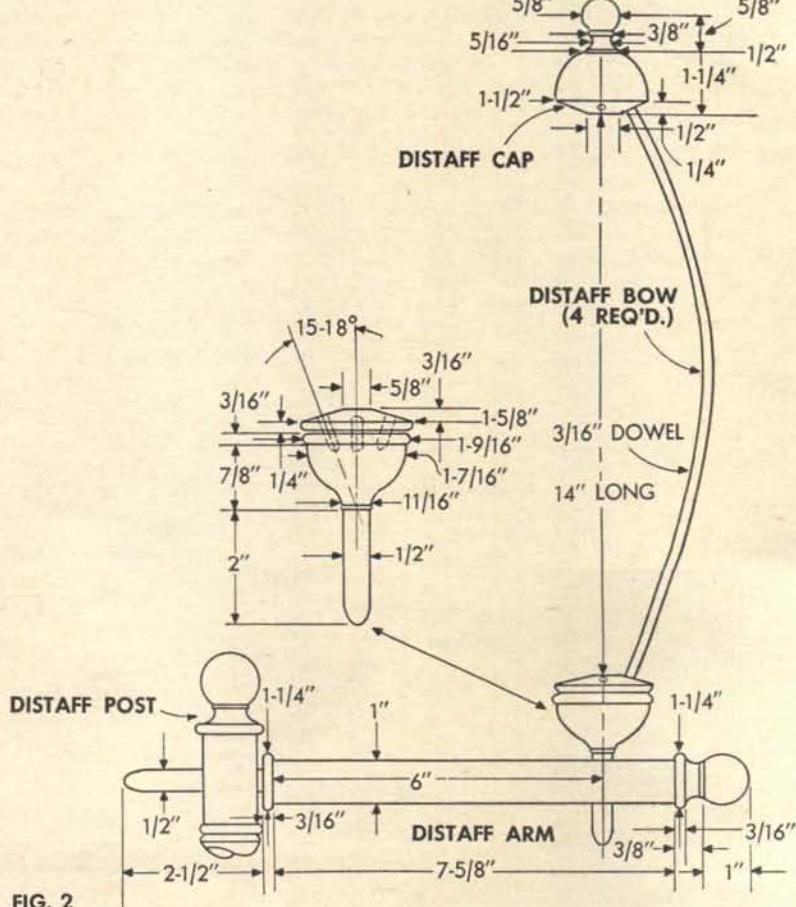
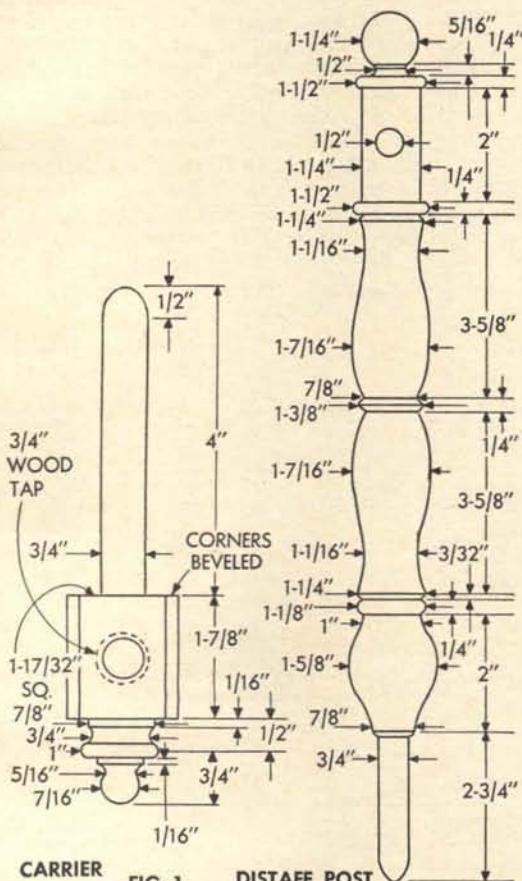
not take the length of the taper and position of the thread and pin for granted. Do a little checking up after you have made the bobbin and turned the sheaves, or, as they were known in the old nomenclature, the whorls. You might be a little off in the spacing of the flyer uprights—it is easy to do—and if so, the spindle might not be the right length. So, cut and try beforehand. This way you will not get parts that do not fit.

Originally, the eye was a brass casting, but the eye, Fig. 4, is a close simulation and is quite easy to make. Now, note the upper assembly in Fig. 4. The flyer sheave is made with both flanges the same diameter. This was one of the parts that was missing from the original that is being copied, and it could be suspected that the original sheave was made with the inner, (next to the bobbin), flange of a somewhat greater diameter. It is so indicated in Fig. 5. Make it either way and you will not be wrong. Another thing: This flyer was made to turn counterclockwise, looked at from the eye end. That means a righthand thread on the spindle. Some flyer arms were fitted with hooks on the side opposite from that shown. Then you would need a lefthand thread on the spindle.

When the parts are put together, the bobbin must run freely on the spindle and the drive pin, which is mortised into the flyer sheave, must drop into a transverse hole in the spindle with the bobbin in place. Then the flyer sheave is placed on the spindle with the pin in place in the mortise and the nut is run up to hold it in

place. As you will see from this assembly which also is shown in the perspective view in Fig. 4, the flyer sheave drives the flyer and the bobbin sheave turns the bobbin independently. The material being spun is fed through the eye, passed over the hooks and the end is started in the bobbin track. Then, when the spinning procedure is started, the flyer spins the material, which must be fed continuously, into yarn. Simultaneously, the bobbin, which is turning slightly faster—note the difference in root diameters of the sheaves—maintains tension and winds the yarn tightly onto the bobbin. After an interval the wheel is stopped, the yarn unhooked from the first hook and the spinning continued, Fig. 4, until a second section of the bobbin is full. Then the procedure is repeated until the bobbin is filled completely, whereupon the flyer is dismantled, the full bobbin removed and another substituted. The flyer is reassembled and the process is repeated.

There were different methods and procedures, of course, and on some old wheels the flyers were assembled in a somewhat different manner. But, in general this was the practice. When assembled, the flyer should turn freely in the leather bearings, which are held in place with pins as in Fig. 5. Finally, you come to the making and assembly of the treadle and pitman, Fig. 6. In the old nomenclature, which it will be noted we are not using throughout, the pitman was called the "footman." It is a piece of oak, planed to $7/16$ in. thickness and ripped to $1\frac{3}{8}$



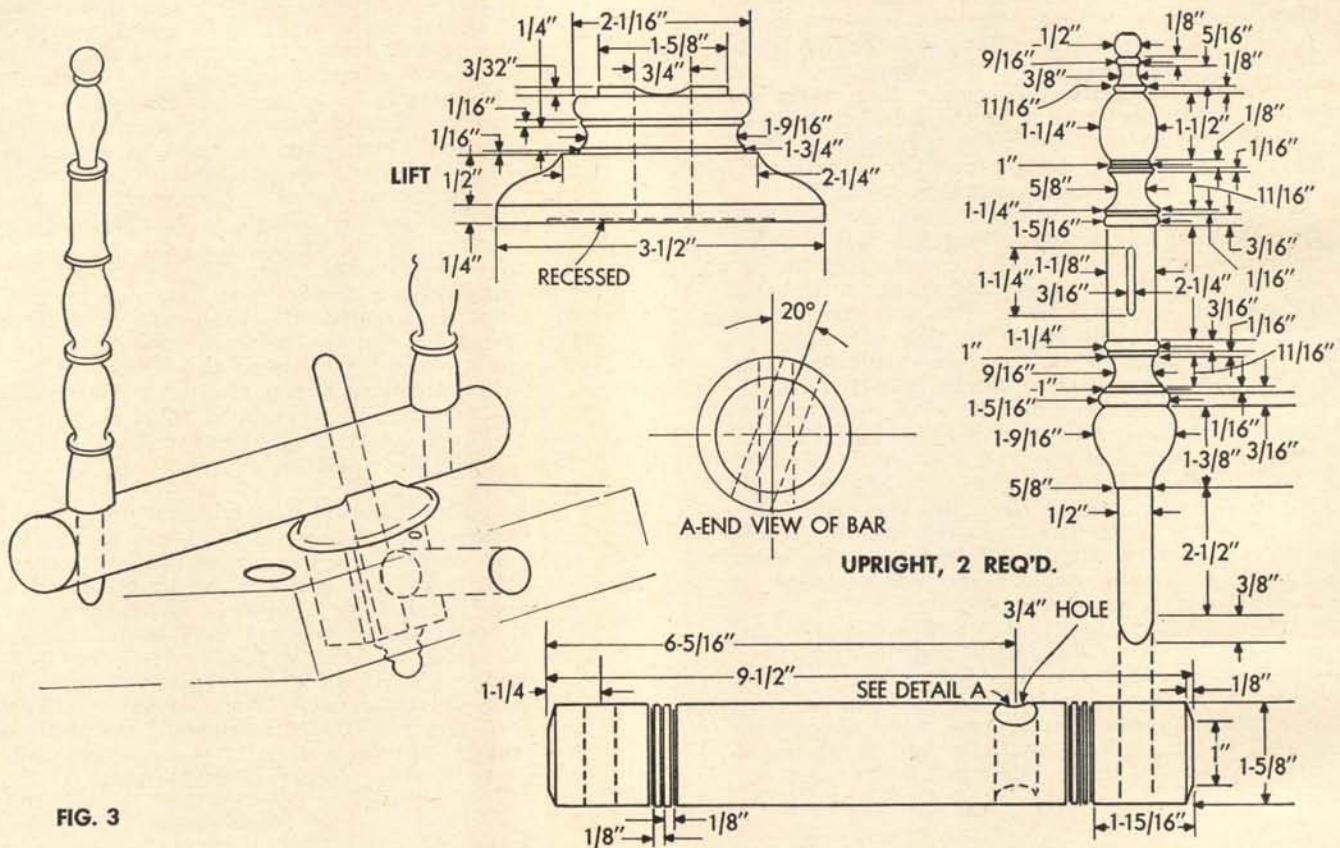


FIG. 3

in. in width. The center section is cut down to 7/16 in. square, and the piece is shaped, drilled and slotted as indicated. Before you cut the slot, it might be well to check its location on the assembled wheel. On some old wheels the pitman was joined to the outer end of the treadle arm, Fig. 6, by means of a leather thong, rather than a dowel or pin as shown. Both methods were used. The treadle is supported on steel pins that project from the treadle bar and enter holes drilled in the front and one back leg. Be sure to get these holes drilled at the proper angle so the projecting pins do not bind. And do not cut the treadle bar to the length given until you have

checked the measurement between the legs. In an assembly of this type, dimensions of the original parts cannot always be relied on to fit in the reproduction. And remember that the hole at the lower end of the pitman should be drilled $\frac{3}{8}$ in. to allow movement sideways, as the treadle arm describes an arc as it moves up and down. The footrest, Fig. 6, usually was bradded to the bar and arm. In some instances it was pinned and glued. You can use small screws in countersunk holes if you wish. Fill the holes with matching wood plugs. Construction and assembly-wise, the spinning wheel is complete.

Finish? Some old wheels were given a coat of

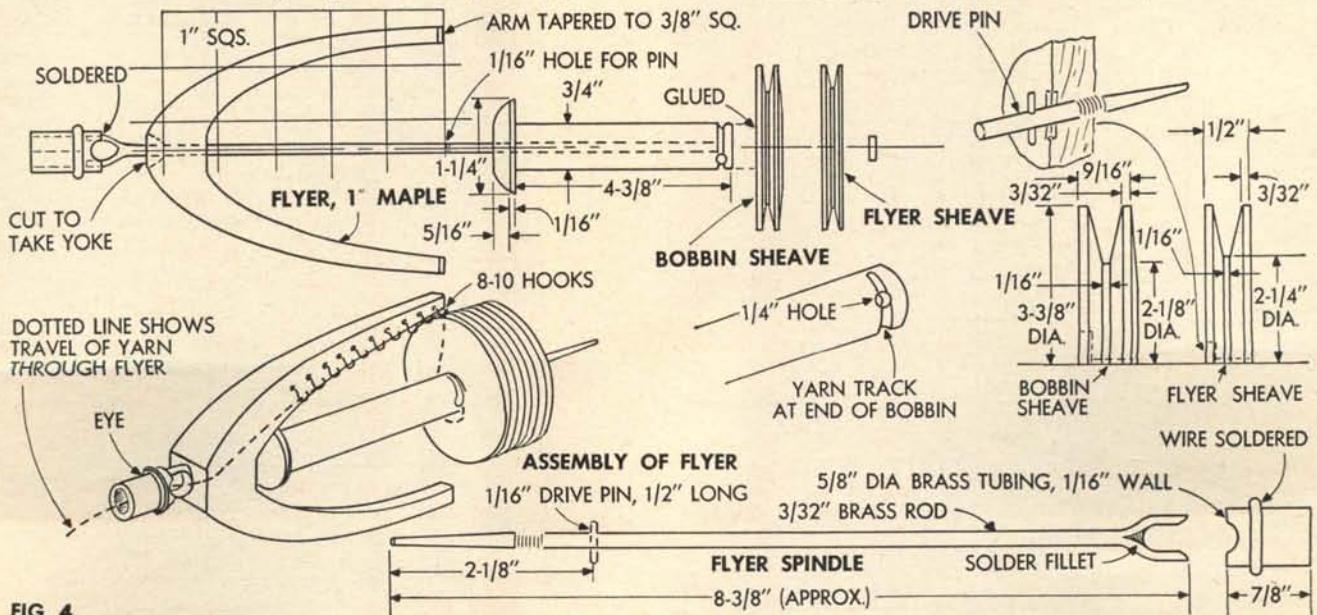


FIG. 4

pure linseed oil; some look as if they had never been coated with any finishing material. But most builders of wheels applied a stain made by thinning van dyke brown, (the tinting material that is ground in oil), and then wiping off the excess until the desired color was obtained. This was followed, when thoroughly dry, with a coat or two of boiled linseed oil cut about 50 per cent with turpentine. Both materials were simply "ragged" on with a clean cloth and the excess wiped off. You can also use the new, prepared Danish oil finish to good advantage. It is easy to apply and if you follow the instructions for application of this product, it should be quite satisfactory on the woods used on the wheel. △ △

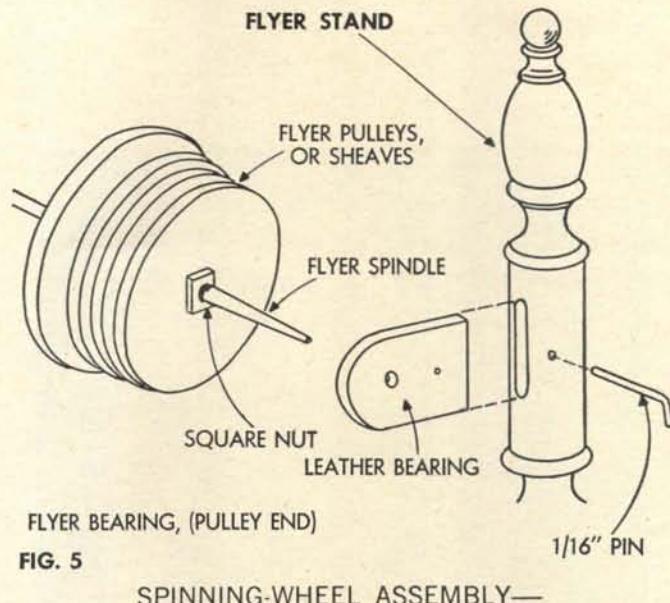
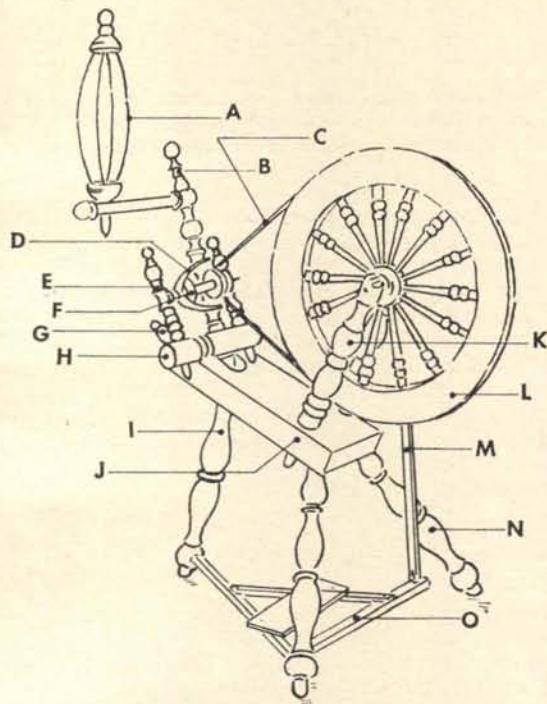


FIG. 5

SPINNING-WHEEL ASSEMBLY—

PARTS KEY

A—Lantern Distaff	H—Mother-Of-All
B—Distaff Post	I—Back Leg
C—Driving Bands (Cords)	J—Table
D—Flyer	K—Wheel Post
E—Maiden	L—Wheel
F—Bobbin	M—Footman
G—Tension Screw	N—Front Leg
O—Treadle	

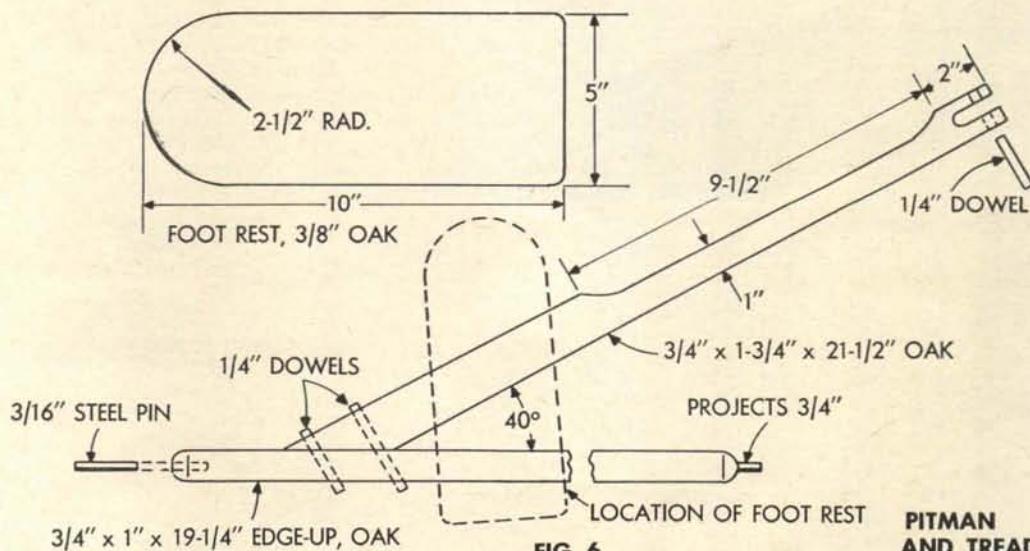
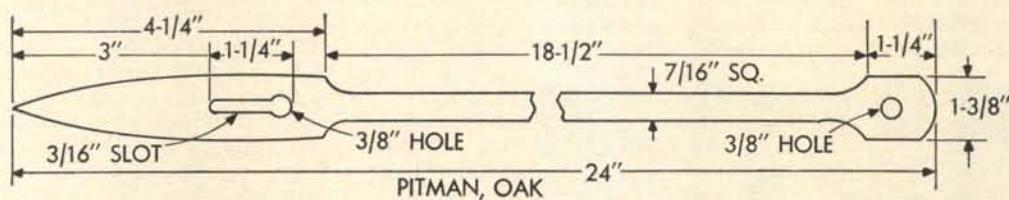


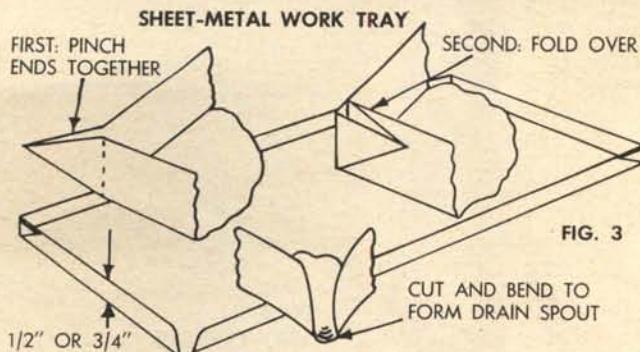
FIG. 6

PITMAN AND TREADLE

MIRROR



2. Sheet-metal tray has three leakproof corners and a drain spout. Asphaltum paint is applied to provide resistance to acid and chemicals. Use one or more coats.



Caution: Before doing any mirror silvering or resilvering, carefully reread all the precautions described in this article.

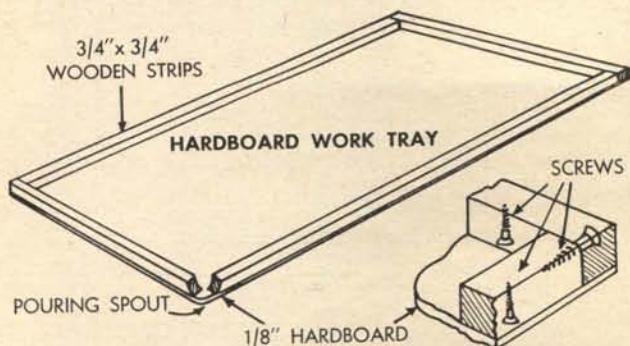
1. Glass is leveled with rubber door stops, then working solution, which deposits its content of silver in 10 to 15 min., is poured slowly on the chemically-cleaned surface.

MIRROR SILVERING IS EASY, but requires meticulous attention to details: thorough cleaning of the glass, accuracy in making up and using the solutions, and care in following precautions for handling acids safely. The last is most important!

The best mirrors are made of plate glass as it has precision ground and polished surfaces. Avoid using glass with scratches or other defects. You will need an acid-resisting work tray to handle the glass you are to silver, Fig. 3. It can be made of galvanized sheet metal or hardboard, the inside being coated with asphaltum paint.

For weighing chemicals use a balance or accurate scale having a capacity of not less than 8 oz. You will need bottles, glass graduates or measuring cups, an abrasive stick, a 1-in camel's hair brush, rubber gloves and a rubber apron. You also need four wedge-shape rubber door stops to level the glass. Chemicals needed are: Chemically pure (C.P.), silver nitrate, ammonium hydroxide, nitric acid, potassium hydroxide, (either pellets or sticks), and stannous chloride. Also required are distilled water, washing soda and granulated sugar. Get the chemicals at a chemical supply house or have your druggist order them for you.

Dull the sharp edges of glass with an abrasive stick, such as a knife sharpener, Fig. 4. Set the work tray on a bench at a slight slope for drainage, with the pouring spout over the edge to drain into a sink or a polyethylene container raised high enough to prevent splattering, Fig. 1. Place the doorstops in the tray to hold the glass level. You then are ready for the 2-step cleaning routine. First use a hot solution of washing soda, $\frac{1}{4}$ lb. in distilled water, 1 qt. Do not use tap water as it may contain chlorine that prevents deposition of silver. Rub the solution on the glass with a clean cloth, Fig. 5. Avoid touching the glass with bare fingers. After washing thoroughly, rinse with distilled water. Adjust the wedges, Fig. 6, so the glass is per-



RESILVERING

fectly level. This is the case when water tends to "pile up" on the glass without running off.

Next, slowly pour on the glass a solution consisting of nitric acid, 1 fluid oz. in distilled water, 5 fluid oz. **Follow precautions given in subsequent paragraph!** Allow the solution to stand on the glass a few minutes, then rinse off with distilled water. Note whether the distilled water spreads over the entire surface. If it tends to draw away from certain areas, these are not chemically clean and the cleaning operation must be repeated. When the glass is clean after the last rinsing with distilled water, immediately cover the glass with a solution of stannous chloride, $\frac{1}{2}$ dram dissolved in distilled water, 2 qts. This prevents dust from settling on the glass, and remains on the glass until you are ready to silver it.

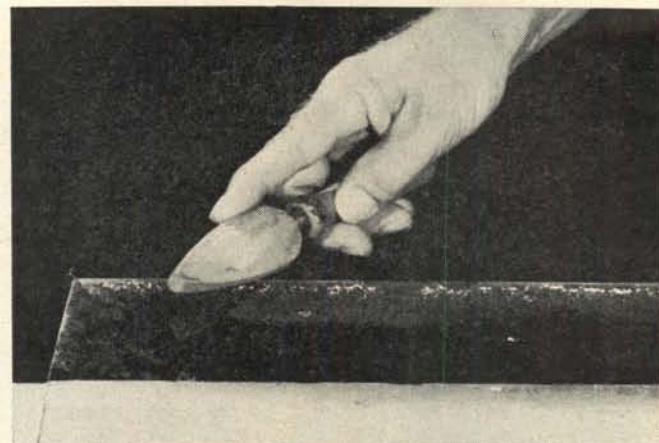
When resilvering an old mirror, first apply varnish remover to the protective film on the old silver and remove the softened film with a rag. Then remove the old silvering with the nitric-acid cleaning solution and apply the above cleaning procedure.

PRECAUTIONS WHEN HANDLING ACIDS

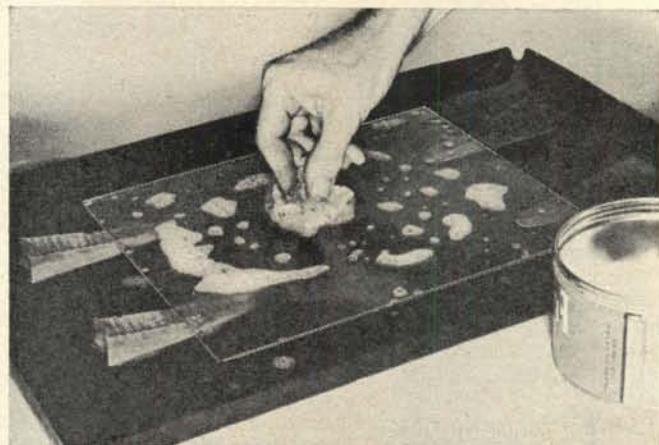
Dangerous corrosive acids are handled safely every day by many chemists, and even by students and unskilled industrial workers. You can do the same. Wear rubber gloves to protect your hands, and wear a rubber or polyethylene apron to protect clothes. To dilute an acid in water, add it slowly to the water while stirring. **Never add water to an acid.** When mixing acids, avoid splattering. If acid gets on skin or clothing, quickly wash away all traces of it with running water. If this is impossible, neutralize the acid with a saturated solution of water and baking soda applied liberally. Keep this neutralizing solution made up and at hand. Keep acids in glass or polyethylene bottles tightly stoppered with rubber, polyethylene or glass stoppers. Mix acids in porcelain, polyethylene or heat-resisting glass containers. When stirring acid solutions use a glass rod. Fumes given off by chemicals should be carried away from the worker and outdoors through a window or vent by means of an exhaust fan that should be run constantly.

As metal drain pipes will be destroyed gradually by many acids discarded into them, even when flushed away with generous amounts of water, it is better to neutralize the acid solutions first by adding a soda solution. To discard solutions containing silver, add common salt. This causes solids to form which you remove and bury or dispose of in the garbage. The remainder of the solution can be poured into the drain without damaging it. Never store a solution containing both silver nitrate and ammonium hydroxide because explosive compounds will be formed. However, such solutions are not explosive if used within 6 or 8 hrs. after mixing them. Discard them immediately after silvering, and also discard unused portions.

A working solution to deposit silver on clean glass consists of two solutions; a reducing solution and a silver solution. Prepare the reducing solution first, a day or so before silvering. It can be used a few hours after mixing if you heat it to the boiling point and allow it to cool off to room temperature before using. It consists of granulated sugar, 2 oz. by weight, dis-

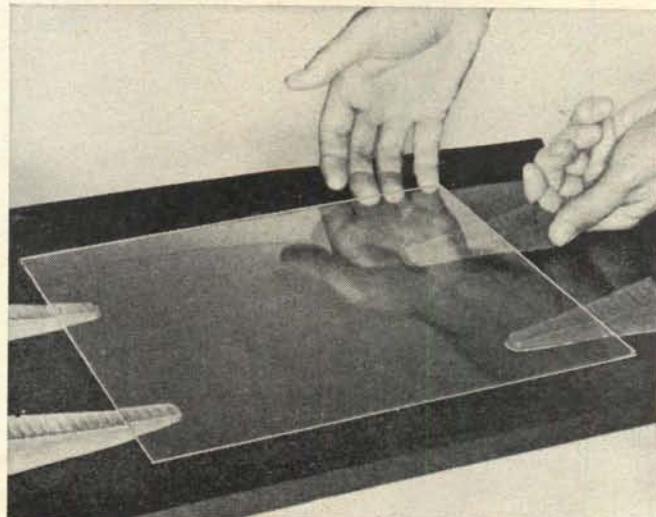


4. Abrasive stone, such as knife sharpener, is used to dull sharp edges of glass. Fine file also can be used for this job. This is important step, as sharp corners cut.



5. Cleaning of glass is done in two steps; first step is to wash glass with hot soda solution. All steps in process are important, and clean glass is absolute must.

6. Glass pane is adjusted carefully with wedge-shape rubber door-stops so it is absolutely level. This is necessary to assure that chemicals poured on glass will not run off.





7. After weighing chemicals accurately on a scale, they are slowly added to solutions while stirring them with a glass rod. Do not use stirring rods made of other materials.



8. Nitric acid and ammonium hydroxide are added to solutions drop by drop with a thoroughly clean medicine dropper. Solution is stirred constantly as chemicals are added.

solved in distilled water, 22 fluid oz., after which 48 drops of nitric acid are stirred in.

Within a few hours before silvering make up the silver solution. First, dissolve silver nitrate, $\frac{3}{4}$ -oz. by weight in distilled water, 10 fluid oz., Fig. 7. Discard the surplus over 10 oz. Then slowly add ammonium hydroxide drop by drop with a medicine dropper, Fig. 8. The solution will turn cloudy, then clear up. Do not add a drop more than is required for clearing. The second step consists of adding $3\frac{1}{2}$ fluid oz. of a solution made by dissolving sticks or pellets of potassium hydroxide, 1 oz., in distilled water, 10 fluid oz.

9. After mirror has been silvered, it is held at its edges to stand it up for drying. When the silver application has dried completely, a protective coating is applied.



This addition again results in cloudiness and is similarly cleared with ammonium hydroxide added drop by drop. A slight excess of ammonium hydroxide will prevent silver from being deposited, and an insufficient amount causes precipitation of silver which can be corrected by filtering. The third step is to add an amount of solution made by dissolving silver nitrate $2\frac{1}{3}$ oz. in distilled water, 10 fluid oz. This is added until the solution turns a light straw color. The amount required varies; if the correct quantity of ammonium hydroxide was added during steps 1 and 2, a small amount is needed, but if too much ammonium hydroxide was added, a large amount is needed. The silver solution so mixed is enough to silver a 10 x 12-in. area. **Do not store overnight or longer as it then starts to form silver fulminate, which is an explosive compound!!**

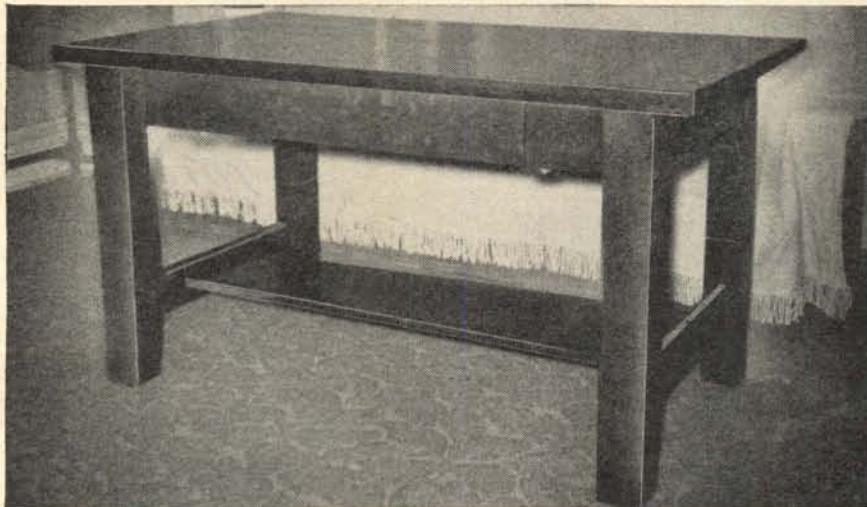
Mix 1 part of reducing solution in 4 parts of silver solution to form the working solution. This starts to deposit silver as soon as mixed, therefore should be put on the glass at once. As a level 10 x 12-in. glass pane will hold about 5 or 6 oz. of the working solution without letting it run off, it is best to mix only this amount and allow it to stand on the glass for about 12 min. when practically all the silver will be deposited. Now, tilt the pane to drain it and repeat the process until the entire amount of silver has been used up.

When silvering is completed, rinse the silvered side of the glass with cold water and gently swab the surface with a wad of absorbent cotton. Finally, set the glass on edge to dry, handling it at the edges, Fig. 9. One-way mirrors are thinly silvered so that they will not appreciably impede visibility when a person is looking through them from the side of lowest illumination, but appear like ordinary mirrors from the other side. Thick coatings of silver for a regular mirror are formed by successive application of the working solution, each being applied immediately after the preceding one has been poured and has set.

A coat of paint, varnish or lacquer over the silvering will protect it. Apply this with a camel's hair brush as an ordinary stiff brush will scratch the silver coating. If the mirror is to be mounted on a backing plate, several coats of paint or varnish are advisable to get a thick protective film. Still better protection is obtained by electroplating on the silver with copper, then coating this with varnish. △ △

Two Tables From One

L. C. Ruff



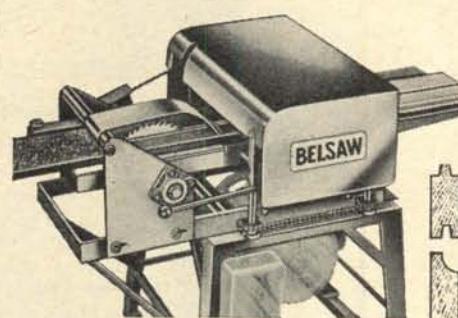
Although the table was very old, and not especially attractive, it was solid oak and well built. By cutting it down for a coffee table it was given new life and beauty. Lower shelf and stubs of the legs became an attractive plant stand.

NEED A KING-SIZE coffee table in your living room, in the den or a recreation room? Then drag out that outdated solid oak library table from the attic and cut it down as we did. If you have no table stored in the attic or basement, shop around in second-hand stores or attend a few rummage sales.

Our table was 29 in. high, so we cut the legs to a length of 17 in. for the coffee table. The large, and very useful, drawer was left intact. Considering the cost today of the solid lumber in the leg stubs and shelf, we couldn't see scrapping them. After considering making

shelves, a whatnot stand or some other item we decided to leave the assembly intact and utilize it for a plant stand in front of the fireplace. It was necessary to stain the tops of the post where they were sawed off, but the rest of the unit required only washing with detergent and water, then an application of furniture polish. Both the table and plant stand are used in rooms where the other furniture is dark. If the furniture had been light, we would have stripped off the old finish and applied a light, modern finish, such as has been described in the Refinishing Clinic. △△

PLANER MOLDER SAW!



Now you can use this **ONE power feed** shop to turn rough lumber into high-value moldings, trim, flooring, furniture . . . ALL popular patterns.

RIP . . . PLANE . . . MOLD . . . separately or all at once by power feed . . . with a one horse-power motor. Use 3 to 5 HP for high speed commercial output.

LOW COST . . . You can own this MONEY MAKING **\$30⁰⁰** POWER TOOL for only

down payment

Send coupon today

BELSAW POWER TOOLS

963 Field Bldg., Kansas City 11, Missouri

Send me complete facts on the MULTI-DUTY Power Tool. No obligation.

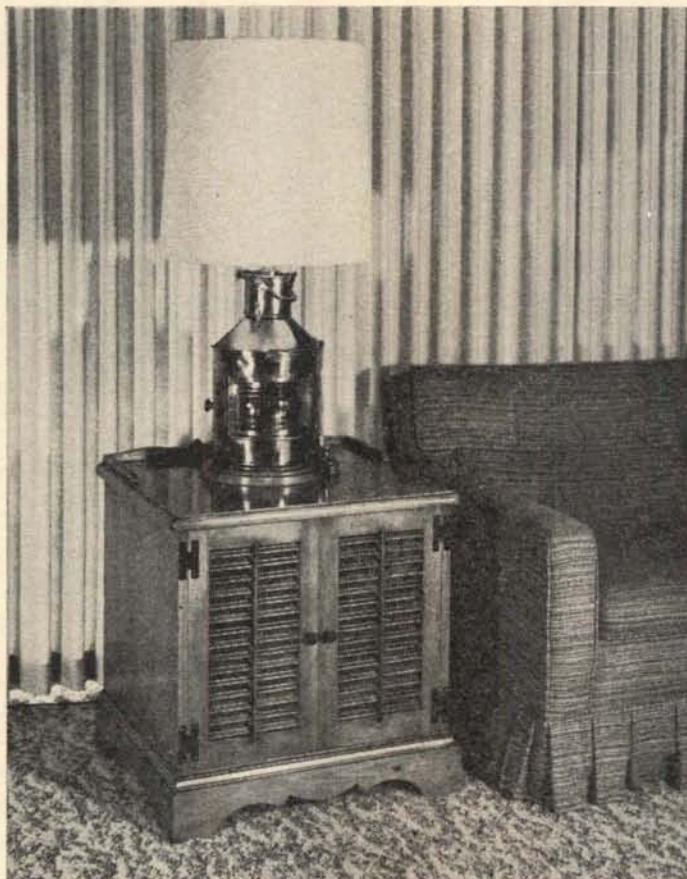
Name _____

Address _____

City _____

State _____

Early-American Speaker Cabinets



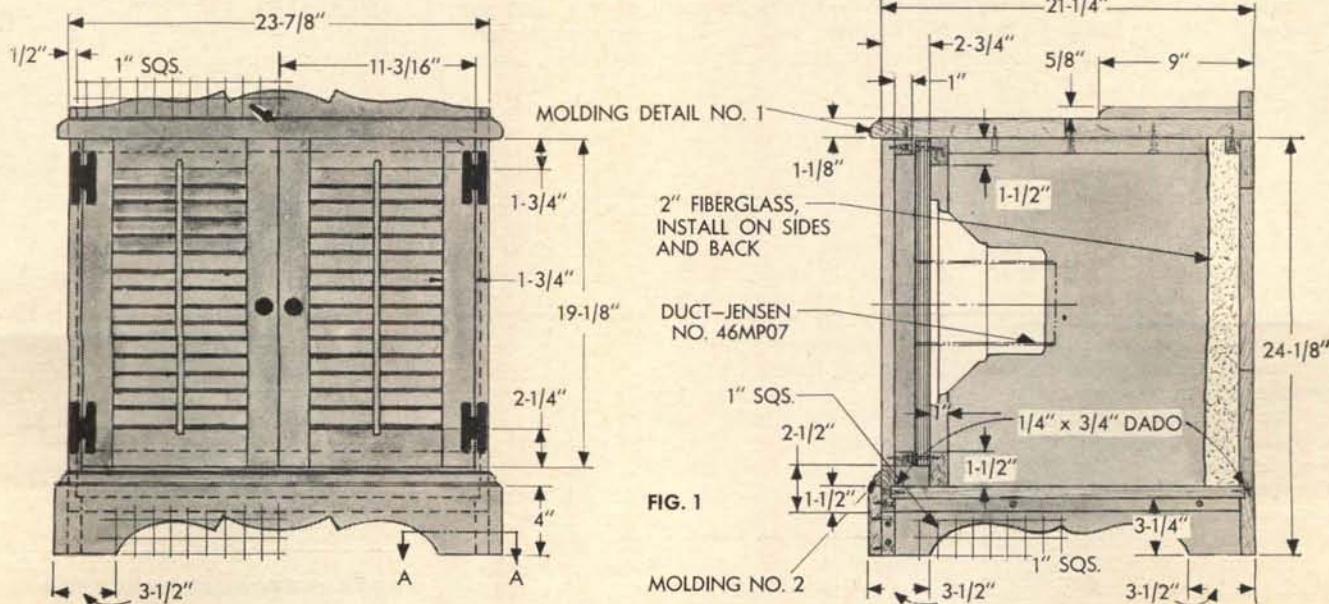
Completely Early-American in design, this cabinet gives no hint that it houses a loudspeaker for a modern hi-fi system.

Bruce Burk

INCORPORATING A HI-FI SPEAKER system into a nicely furnished room is always a problem, and is especially so when the decor is Early American because most speaker cabinets are of contemporary design. The cabinet described in this article, (one of a pair necessary for stereo), is an efficient speaker enclosure and also a handsome and functional end table.

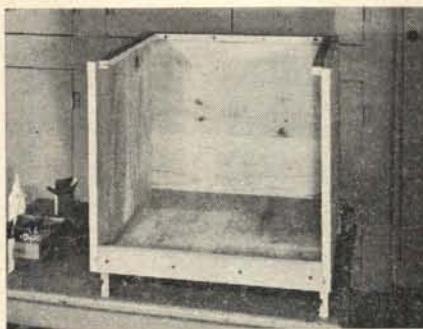
Ponderosa pine was used for the original cabinets, but personal preference may determine another wood. Each of the cabinets was fitted with a Jensen Manufacturing Company's DX-120 two-element, 12-in. speaker. This was recommended for a medium-priced installation. For a higher-quality, and higher-priced, setup, the 12-in. coaxial-type H-223F speaker was recommended by the company. Except for the sizes and shapes of the holes in the baffle, cabinet construction is the same for either type.

Start the project by edge-gluing stock to make the various panels, Figs. 1 and 5. Next, dado the sides, back and lower front member to receive the bottom, Fig. 1. Use a drill such as Circle-Sink or Screw Mate to counterbore for 1½-in. No. 10 flathead wood screws. Cut the 1 x 1½-in. strips that support the top, and attach to the back and

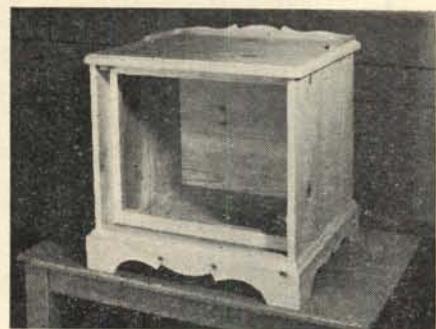




2 Side panel is being attached here; all joints are fastened with glue and screws for soundproof attachment.



3. At this stage of assembly cabinet is ready to be sanded before adding the base and top members.



4. Here top and base are installed, strips to which baffle is attached are in place inside front edges.

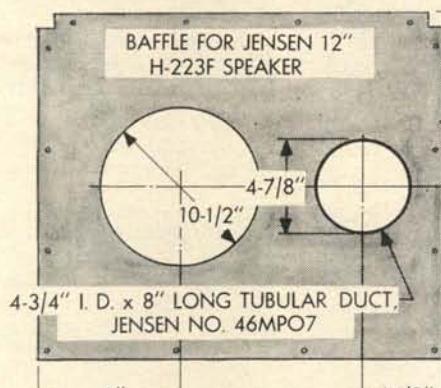
side panels with glue and screws. "Dry-fit" all parts then begin assembly by attaching the back panel and lower front member to the bottom. Note that the lower member is $2\frac{1}{2}$ in. high, with a dado positioned 1 in. from the top. Add the side panels next, Figs. 2 and 3, then plug all exposed counter-

bored screw holes.

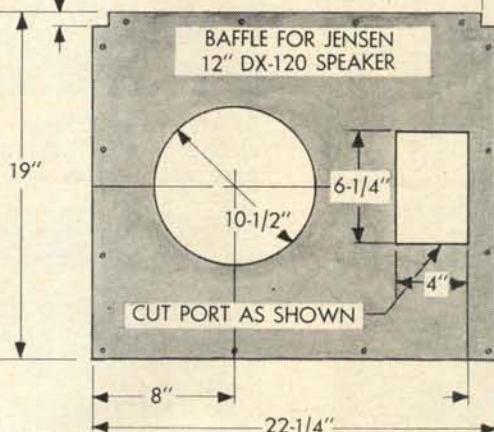
Cut the base members, using patterns made by enlarging the squared drawings in Fig. 1. Miter the corners and cut grooves for splines. Assemble the base with glue, splines and corner blocks, Fig. 5, and fit to the cabinet. Add ogee molding on the top edges of

the base. Rout or shape the molding detail, Fig. 5, on the front and side edges of the top. Attach the top with glue and screws, then nail on the small rails. Next, cut and install the strips to which the baffle is attached, Fig. 4. The baffle is cut from $\frac{3}{4}$ -in. plywood. If the Jensen H-223F speaker is used, ce-

3/4" PLYWOOD

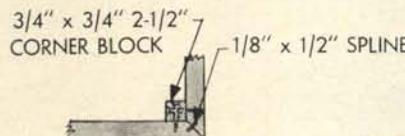
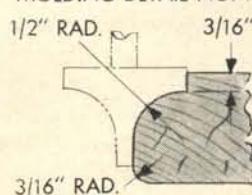


7/8" SECTION A-A



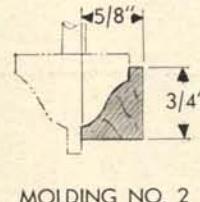
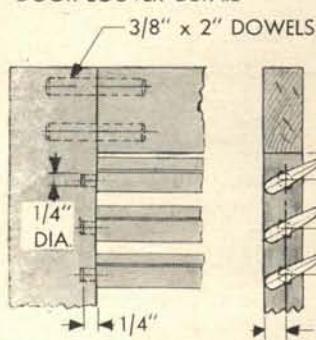
7/8"

MOLDING DETAIL NO. 1



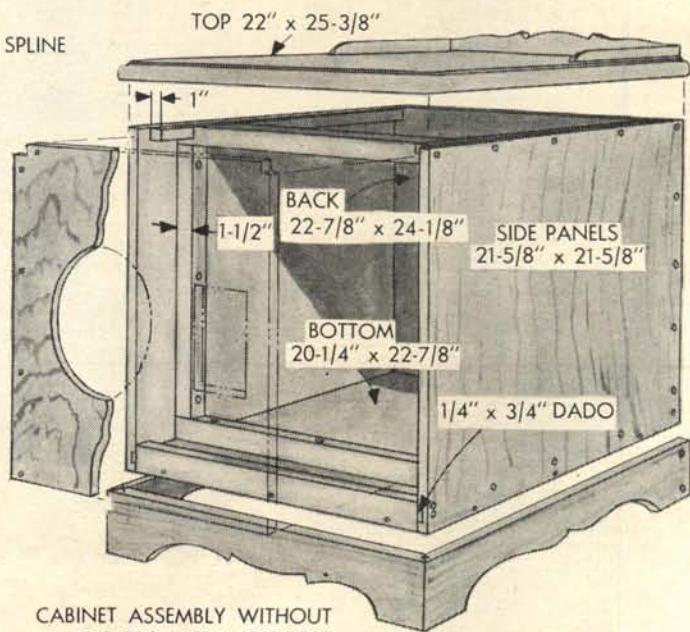
SECTION A-A

DOOR-LUVER DETAIL



MOLDING NO. 2

FIG. 5



CABINET ASSEMBLY WITHOUT DOORS AND MOLDINGS

HEARING CAN BE RESTORED WITHOUT A HEARING AID!

While the use of a hearing aid is the solution to many hearing problems, it isn't the only way to restore hearing. Facts about some types of hearing loss that can be corrected through medical treatment or by simple surgery are found in Zenith's booklet, "Hearing Loss and the Family Doctor," written by a nationally prominent physician and published by the Zenith Radio Corporation. To obtain a free copy of this valuable booklet, simply fill out the coupon below.

FREE BOOKLET

For your free copy of "Hearing Loss and the Family Doctor," plus descriptive literature on Zenith Hearing Aids, just write: Zenith Hearing Aid Division, Dept. 87P, 6501 W. Grand Ave., Chicago 35, Ill.

NAME _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

Need Extra Income? I can help you Earn \$60 a Month

and MORE in your sparetime

No sales experience is needed to make money with this plan. Every neighbor, relative and friend is constantly in need of gifts and greeting cards or new household gadgets. You make a generous profit on every item. And you save money on your own personal cards, gifts, etc., because you pay only at the low wholesale prices.



MERCHANDISE SENT ON APPROVAL

To let you actually see this wonderful money-making merchandise, I'll send you a number of our fastest moving gifts and cards on approval. I'll also send our large beautifully illustrated catalog and tips on how to turn sparetime into easy cash. Don't just believe what I say. Send coupon and see for yourself. There's no obligation. If you need extra cash, send coupon today.

Jeanne Adriane, President
GREETINGS UNLIMITED

Jeanne Adriane, President,
Greetings Unlimited, 3-655 Park Square,
St. Paul 1, Minnesota

Please send catalog and
merchandise on approval

Name _____

Address _____

City _____ Zone _____ State _____

89 JIG SAW PATTERNS • UP TO 21" HIGH

89 FULL SIZE patterns of beautiful Wall & Corner Shelves, Bird Houses, Action Toys, Dudes, Smirkling Girl, U.S. Presidents, other easily made things. Just trace, cut out & paint! Order the JIG SAW PACKET today. Only \$1.25.

MASTERCRAFT PLANS, Dept. 34B
7041 Olcott Avenue, CHICAGO 31, ILL.

ment the Jensen 46MP07 duct over the circular cutout. Use calking compound around the duct-baffle joint to assure an airtight seal. Attach the speaker, Fig. 6, and temporarily install baffle, Fig. 10.

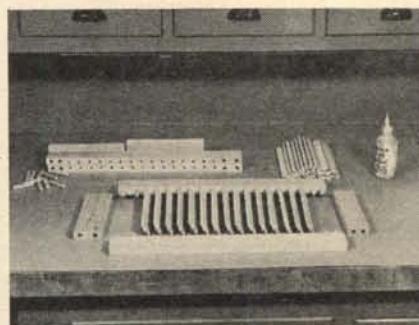
Rip and cut to size the frame members for the doors. Cut lengths of shutter-louver stock $\frac{1}{2}$ -in. longer than the horizontal door members. Notch the ends to produce a $\frac{1}{4}$ -in. projection at the center of each end of the louvers. Rough the projections to round, then force them into a $\frac{1}{4}$ -in. hole in a piece of metal to finish rounding. Drill $\frac{1}{4}$ -in. holes in the side members for the projections and $\frac{3}{8}$ -in. holes for the dowels, Fig. 5. Put a touch of glue

in each hole in one member, then insert the louvers, Fig. 7. Place glue in the holes in the other member, then assemble the door and hold with two bar clamps. When the glue has set, sand the assembly and glue on the vertical strips. Join the two doors with strips, Fig. 8, fit in the cabinet, then set aside.

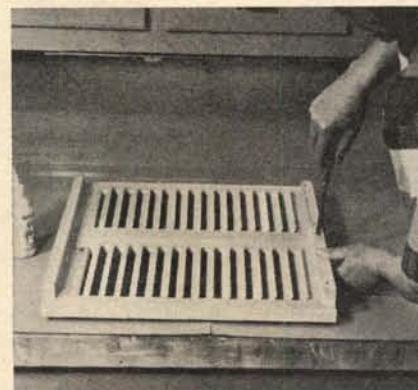
Stain and finish the cabinet, including the baffle. When the finish is dry, remove the baffle and staple or cement 2-in. fiberglass soundproofing to the inside of the back and sides, Fig. 9. Run wires through a small hole in the cabinet bottom, attach to the speaker and reinstall the baffle. Finally, install the doors with the hinges, Fig. 11. △△



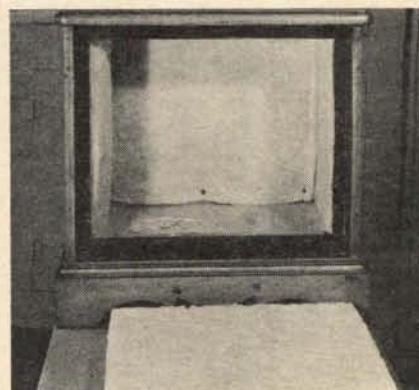
6. After cutouts are made in baffle, speaker is attached firmly with round-head wood screws over opening.



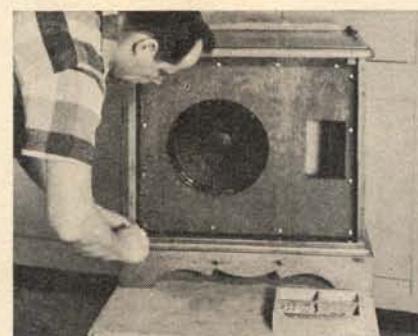
7. Parts for one door have all been cut out and are now positioned ready for assembly with dowels and glue.



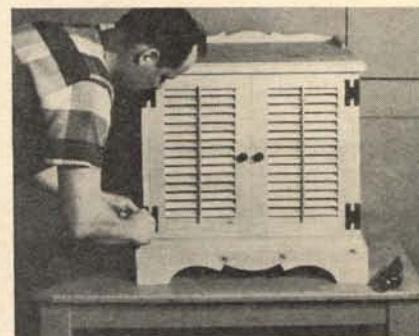
8. After assembly, the two doors are joined solidly together with strips at both the top and bottom.



9. Soundproofing in sheet form is attached to inside of cabinet at the back and on both sides.



10. After cabinet is finished, baffle is removed to install soundproofing, then reinstalled with speaker in it.



11. Doors are fitted into cabinet, then attached with hinges. Doors appear ready to be opened.



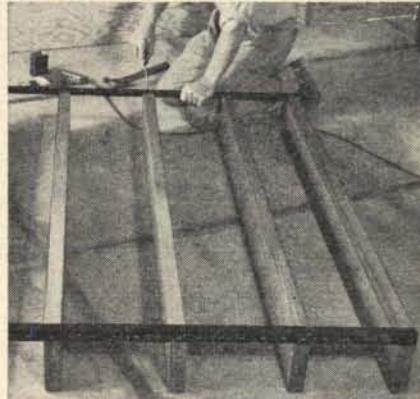
Sturdy and attractive, these shelves can be built quickly and simply, with the shelf spacing whatever you wish. For these shelves 2-in. lumber is used.

FENCE-POST *Shelves*

HERE IS A METHOD of making rugged, good-looking shelves in a hurry. Required are steel-angle fence posts and 2-in. lumber. Fence posts are sold in lengths from about 5 to 8 ft., which permits a choice of height in the shelf assembly. Posts can be obtained at farm stores, hardware outlets and at mail-order houses such as Wards and Sears.

First step is to grind off the heads of the rivets that hold the anchor plates to the lower ends of the posts, then knock out the rivets and remove the plates. The shelf shown was made by cutting two 8-ft. posts in half to produce a shelf assembly 4 ft. high. Shelves can be 2 x 8, 2 x 10 or 2 x 12 stock up to 8 ft. long. For shelves shorter than 5 ft., 1-in. stock can be used.

Shelves can be spaced as desired; the first shelf on the unit shown was placed at the first anchor-plate hole, which is 10½ in. up. The other shelves were spaced 10 in. apart.



Fence posts are attached to shelves with 2-in. No. 12 wood screws driven at angle through punched holes.

The shelves of 2-in. stock are fastened to the posts with 2-in. No. 12 wood screws. The screws are driven through the punched holes in the posts, at a slight angle. The reason for the angle is to pass the pressed-out clips that hold fence wire.

The posts are painted flat black, the shelves a clear finish. △ △

PAUL COREY



You can assemble this new Schober Spinet Organ for \$550 — or half the cost of comparable instruments you have seen in stores. The job is simplicity itself because clear, detailed step-by-step instructions tell you exactly what to do. And you can assemble it in as little as 50 hours.

You will experience the thrill and satisfaction of watching a beautiful musical instrument take shape under your hands. The new Schober Electronic Spinet sounds just like a big concert-size organ — with two keyboards, thirteen pedals and magnificent pipe organ tone. Yet it's small enough (only 38 inches wide) to fit into the most limited living space.

You can learn to play your spinet with astounding ease. From the very first day you will transform simple tunes into deeply satisfying musical experiences. Then, for the rest of your life, you will realize one of life's rarest pleasures — the joy of creating your own music.

For free details on all Schober Organs, mail the coupon now. No salesman will call.

THE *Schober Organ* CORPORATION

43 West 61st Street, New York 23, N.Y.
Also available in Canada and Australia.

MAIL THIS COUPON TODAY

The Schober Organ Corporation
Dept. W-5
43 West 61st Street
New York 23, New York

- Please send me FREE booklet and other literature on the Schober Organs.
- Please send me the Hi-Fi demonstration record. I enclose \$2 which is refundable when I order my first kit.

Name.....

Address.....

City.....Zone...State.....



**Seals,
Primes
and
Finishes**
SPECIAL
\$2.50 Quart
\$5.00 Gallon

GASTON Waxing Lacquer is a clear, colorless lacquer for furniture, wall paneling, desks, light or blonde finishes, or other interior wood. Complete and ready-to-use. 21% solids! Spray or brush. Sand first coat like sanding sealer. Even second and third coats will brush. Dries in 1-2 hours to beautiful semi-gloss luster with tough, durable, alcohol-proof surface. Stands good hot dish test for table tops. Amazingly easy to rub with 0000 steelwool for fine textured genuine sateen rubbed finish that feels like velvet. For mirror-like polish, follow with any good rubbing compound. Proven since 1948.

GASTON FINISHES • Dept. WB

Box 1246, Bloomington, Indiana

Rush your free 44-page catalog, pad of 0000 steelwool, and items checked below at special price on your satisfaction or money-back guarantee. My check or money order is enclosed.

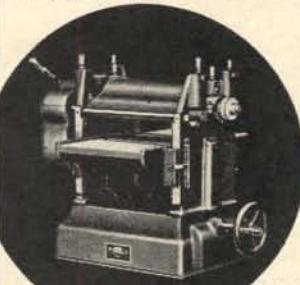
- 1 Qt. Waxing Lacquer. \$2.50 postpaid to 5th zone (1000 mi.) Others add 10%.
- 1 Gal. Waxing Lacquer. \$5.00 postpaid to 5th zone (1000 mi.) Others add 10%.

Name.....

Address.....

City..... State.....

PARKS 12" THICKNESS PLANER



MORE THAN
40,000
IN USE
ALL
OVER
THE
WORLD

The PARKS No. 95 is a compact, sturdy thickness planer that offers mill planer precision and ruggedness at a sensational low price! Write for complete descriptive literature on the No. 95 Planer, as well as on PARKS wood- and metal-cutting Band Saws; Radial Saws; Planer-Jointer Combination Machines; horizontal and vertical, manual and automatic Panel Saws.

THE PARKS WOODWORKING MACHINE CO.
Dept. WB, 1546 Knowlton St., Cincinnati 23, Ohio
Manufacturers of Quality Woodworking Machines Since 1887

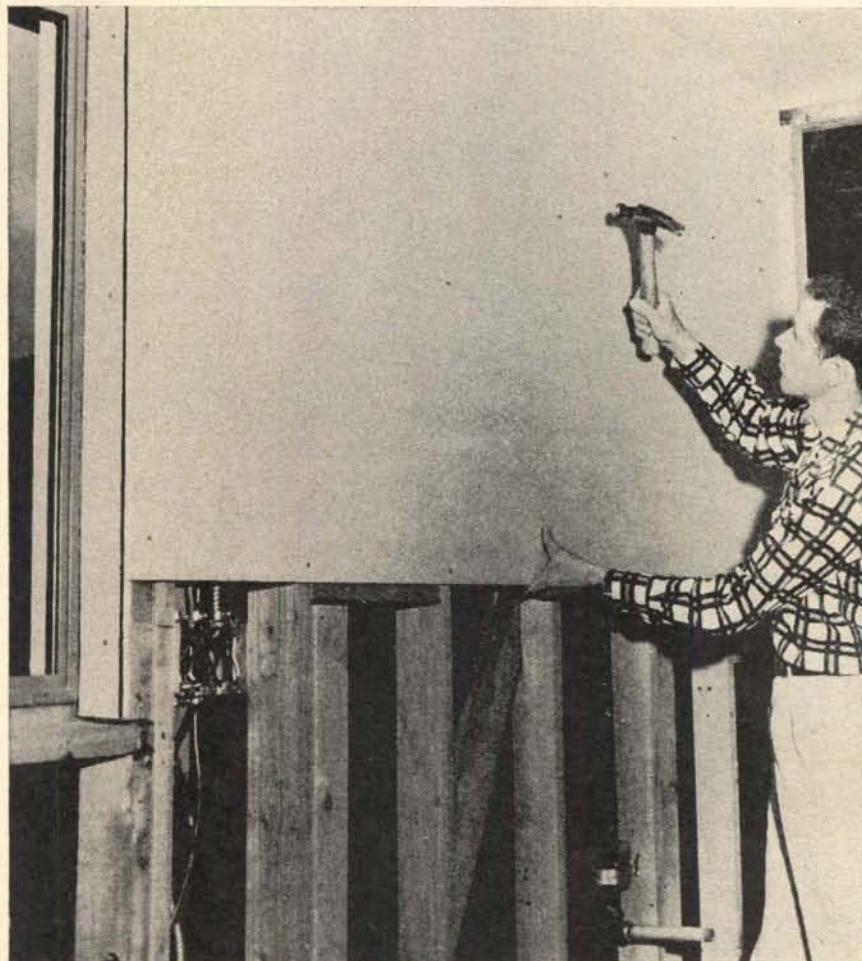
ELECTRIC WELD - BRAZE & CUT

REPAIR MOST EVERYTHING MADE OF METAL

Repair almost everything from 1/8" to 1" iron, ornamental iron work, etc. Solder, heat, bend with terrific heat from arc torch. Can weld up to 1/4" steel plate. A million uses for home, auto, farm, industrial, etc. Works from 110-120-volt power. Complete with welders face mask, goggles, arc torch, supply of welding and brazing rods, and complete Welding Instruction Book. Attractive—portable—efficient. 1 year guarantee.

SEND ONLY \$2.00 (cash, ck, mo) &
\$12.95 plus F.O.D. postage on arrival or
send \$14.95 for Prepaid Delivery. Ideal
gift for mechanically minded relatives,
friends. Available only from: **MIDWAY
WELDER**, Dept. DW-4, Kearney, Nebr.

Invisible Wallboard Joints

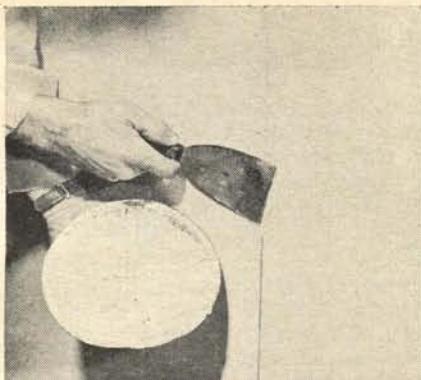


Nail panels horizontally where possible to reduce number of joints. Start at top; lower edge of bottom panel is covered by baseboard.

V. LEE OERTLE

AS WITH MANY BUILDING SKILLS, making neat joints in plasterboard requires experience; the first few jobs you do will not look professional. Shown on this page are the basic steps. If you have some scrap pieces of plasterboard, practice on them before doing an actual wall. Use a wide putty knife, such as shown, not the type used for glazing. Have the plaster or spackle a creamy consistency that trowels

smoothly, but does not run or sag. Use just a little less plaster on the joints than you think is necessary; more can be added, but sanding off excess takes time and labor. Use top-quality material; bargain-price plaster and joint tape will give the same kind of joint. Remember, the joint should look good the life of the wall. Photos on this page give the step-by-step procedure for making neat joint. △ △



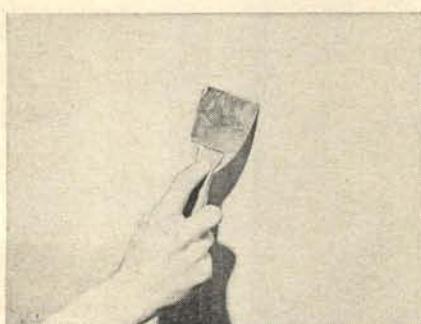
Complete all nailing, dimple over nail-heads with hammer without breaking paper. Then fill joints between sheets of plasterboard as indicated.



Next, apply another strip of plaster over joint, making it about 4 in. wide. Apply just enough to cover joint, do not apply plaster too thickly.



Apply tape over plaster, pressing it in place with putty knife. Use firm, not hard pressure so tape is embedded completely, air bubbles removed.



After all joints have been taped, wash putty knife in water, then go over all tapes once again to make certain all air bubbles are gone.

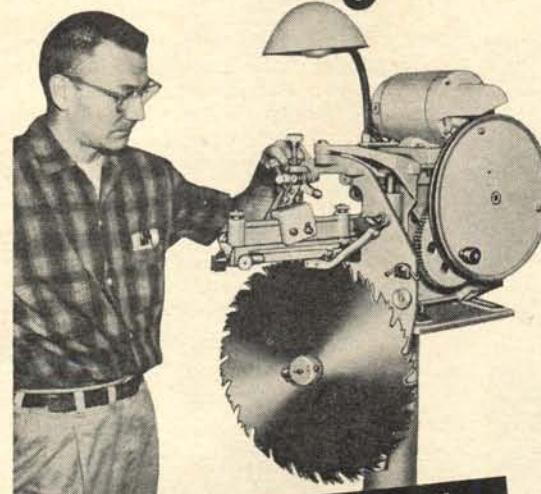


Now dip plastering trowel in joint cement, spread a 6-in.-wide strip over taped joints. Use light pressure, apply cement in very thin layer.



After cement has set completely, go over all joints and sand lightly. Where necessary add another thin layer, let dry, then sand smooth.

For Sparetime or Full Time Income, There's Good Money In Sharpening



GET FREE BOOK NOW "MONEY MAKING FACTS"

This valuable book shows you how to start, how to get business from home owners, factories, carpenters, etc., and how to make profits fast. Mail coupon today. No salesman will call.

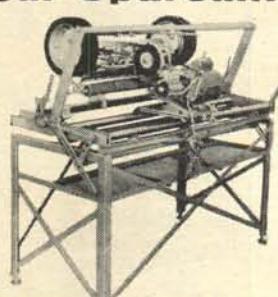
Here's a proven practical way to earn extra dollars in spare time — to develop a money-making repair business of your own. Investment is small. There's no overhead, no stock of goods to carry. No experience needed, no canvassing. You do it with the famous Foley Saw Filer that automatically sharpens all kinds of saws — and the Modern Lawn Mower Sharpener that precision sharpens all types of mowers.

EARN \$3 to \$6 An Hour Sparetime

Hundreds of people like yourself are making cash like this — \$20 to \$30 a week — right now in spare time. "My spare time saw filing business has made me \$952 these first ten months" — says R. T. Chapman. Many have built a complete sharpening service with such year-around profits. You can too, simply by following the sure, easy Foley Plan.

foley

MANUFACTURING CO.
MINNEAPOLIS, MINN.



FOLEY MFG. CO. 340-3 Foley Bldg., Minneapolis 18, Minn.

- #200 Saw Filer information. Modern Lawn Mower Sharpener information. Money Making Facts booklet.

NAME _____

ADDRESS _____

CITY _____

STATE _____



Fresh and gleaming, these kitchen cabinets look brand new, actually are the old cabinets with veneer facing, plus newly-made doors.

Plywood is applied over old surfaces, covers butt joints between sides and facing. Apply on sides first, so front pieces overlap edges of sides.



Renewing Kitchen Cabinets

RALPH TREVES



Plywood in $\frac{1}{8}$ -in. thickness is cut easily with table saw. Use a sharp blade. On table saw keep best side on top; on radial-arm saw keep best side down.

SAVE MONEY, time and labor when modernizing your kitchen by updating the wall cabinets to match the new floor units. We are assuming the floor cabinets are being replaced because they receive considerable wear and tear, and the installation of a new sink, dishwasher, range, oven and other appliances will require new units.

The doors of the wall cabinets are removed and new doors are made, (door making was described in a previous article in this series), using the same hardwood-faced plywood used for the new floor cabinets. The cabinets themselves are not removed, the refurbishing being done with them in place.

Our short cut to new cabinets is to apply $\frac{1}{8}$ -in. hardwood-faced plywood to the sides and front of the old cabinets. Contact adhesive is used to apply the wood and the old enamel or finish does not have to be stripped off. A light sanding may be necessary, and all cabinet surfaces should be scrubbed with detergent and water. An inexpensive 4 x 8-ft.

sheet of the plywood, (about 20 cents a sq. ft.), should be sufficient for most projects, and the panel is light and easily carried and handled. If you use a table or radial-arm saw, use a sharp plywood blade. If you use a hand saw, a fine-toothed blade should be used.

Cut and fit plywood panels for the cabinet sides first. Apply with contact adhesive, then sand the front edges of the panels so they are flush with the face of the cabinets. Cut and apply the strips that go on the cabinet fronts, fitting them over the edges of the side panels. Note that the wood grain on the strips is kept vertical on the vertical pieces, horizontal on the horizontal pieces. This makes the renewed cabinets match the new base cabinets that have hardwood facing strips.

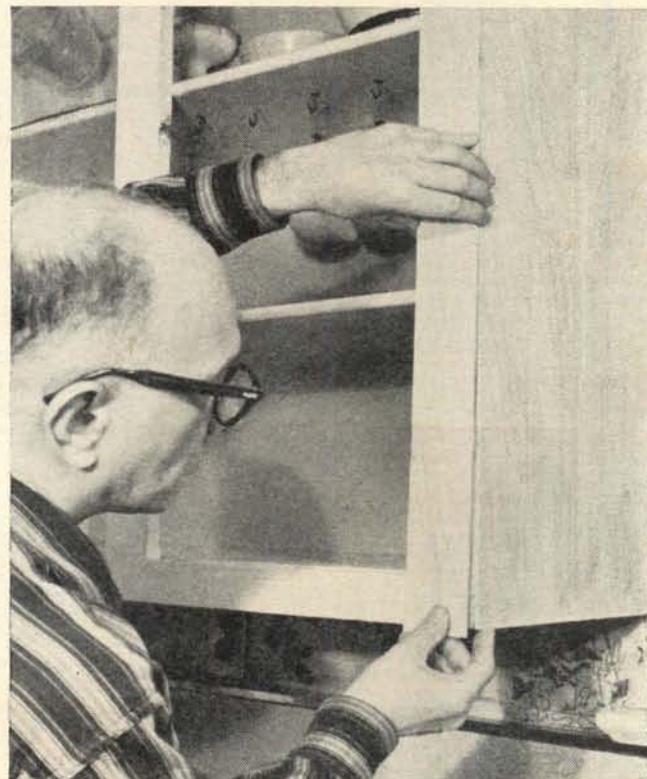
Use $\frac{3}{4}$ -in. hardwood-faced plywood to duplicate the old doors you removed. The sizes of the doors are not affected by the application of the plywood facing. The reason for replacing the doors is that the rounded lip edges cannot be resurfaced as can the flat areas of the cabinets. Apply the same stain and finish to the applied panels as you did to the base cabinets. △ △



Use contact adhesive to apply $\frac{1}{8}$ -in. plywood to cabinets. Adhesive is applied both to back faces of applied strips and to surfaces of the cabinet.

After each side piece is cemented to cabinet, sand the front edge perfectly flush with the face of the cabinet.

When contact cement is used, plywood bonds to cabinet immediately, so align strips to start, keep them aligned.



"THE BEST YOU'LL EVER SEE!"

NEW 3-D MAGNIFIER
\$8.95 EACH



FREE!
Your Name Embossed!

MAGNA-SIGHTER®

- Magnifies Objects Greatly—in 3-D.
- Leaves Your Hands Free to Work.
- Can Be Worn With or Without Glasses—Even Bifocals.
- Finest Ground and Polished Prismatic Lenses.

Thousands of wood and metal craftsman and home hobbyists now do close work see large and clear, work better, faster with less tension, less strain, less fatigue—thanks to the new Binocular Magnifier—Magna-Sighter. Now enjoy close work with both hands free. Order on coupon.

FREE!

ON MAGNA-SIGHTERS ORDERED!

We'll personalize your Magna-Sighter with your name, in sparkling embossed letters inside the Magna-Sighter (see illustration above)—FREE, no extra cost. State names you want embossed on Magna-Sighters ordered. UNCONDITIONALLY GUARANTEED! Try Magna-Sighter 30 days, unless completely delighted, return for immediate full refund.

Fill In and Mail Order Coupon TODAY!

REESE OPTICAL CO.

523 S. Plymouth St., Dept. RO-4C, Chicago 5, Ill.
(SAVE \$1.00 PER MAGNA-SIGHTER. ORDER 2 OR MORE OF ANY SIZE.)

Please rush..... Magna-Sighters postpaid in sizes indicated below, at price of \$8.95 each for 2 or more. Send it if it is ordered. Emboss Magna-Sighters. **FREE** of extra cost with names as indicated. This order is protected by our Money-Back Guarantee. I enclose payment in full.

- No. 3 (Magnifies 1 3/4 X at 14")
- No. 2 (Magnifies 2 1/2 X at 10"—most popular size)
- No. 1 (Magnifies 2 3/4 X at 8")

Print Name to be Embossed.....

Your Name.....

Address.....

City.....

Zone..... State.....

\$1,000 CONTEST



Send picture and description of unusual use for Molly anchors and tell why you used Molly anchors. Judging will be based on skill in describing your preference for Molly anchors. Win one or more of 68 prizes. 1st prize, \$500. Contest closes July 31, 1963. Write Molly Corp., Box 132, Reading, Pa., for entry blank and contest rules. Subject to all governmental regulations.

HANG FIXTURES SECURELY!



MOLY
SCREW ANCHORS

BETTER THAN NAILS & SCREWS—Molly anchors let you put fixtures where you want, not just where studs are. Spider backing reinforces areas in which used. Won't pull through. BETTER THAN TOGGLE BOLTS—Easy to install, need much smaller hole, fixtures can be removed and replaced in same anchor! Money-back guarantee. Ask your hardware supplier for genuine Molly screw anchors... the name is stamped on the cap.

FASTEN FIXTURES TO HOLLOW DOORS
WITH MOLY JACK NUT ANCHORS

Jack Nut screw anchors need only $\frac{1}{8}$ " expansion space, grip any material $\frac{1}{8}$ " to $\frac{1}{4}$ " thick. Perfect for use in thin materials where nails and screws won't hold.



SEND \$1.00 FOR SAMPLE BOX OF 12



CORP. BOX 1139-P, READING, PA.

Enclosed is \$_____ for sample box of (check):

- Molly screw anchors
- Jack Nut anchors

Send entry blank and contest rules.

NAME _____

ADDRESS _____

CITY _____

ZONE _____ STATE _____

INSTALL BURGLAR ALARM SYSTEMS . . . BIG PROFIT BUSINESS

Typical outright store installation
CHARGE . . . \$90.00
COST . . . \$14.00
PROFIT \$76.00

Plus bell and box profits. Plus \$6,000 to \$12,000 per year by servicing contract installations. NASA 11071 Massachusetts, Dept. J233, Los Angeles 25, Calif.

Refinishing Clinic

G. L. BIX



Drop-leaf end table was pretty much an ugly duckling with its very dark finish that was stained and marked from years of use. When finish was stripped off and antique finish of white and gold was applied, table has become attractive conversation piece.



ANTIQUING

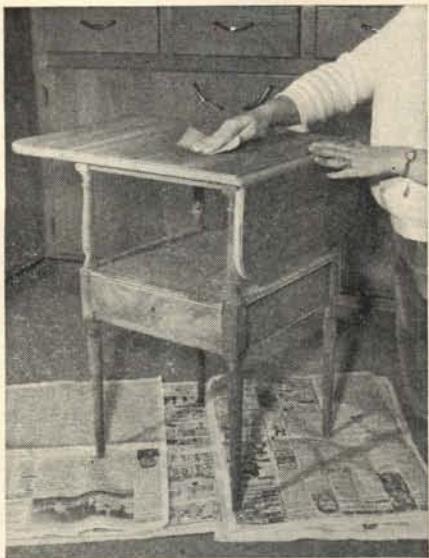
ONE OF THE most popular methods of refinishing old furniture by do-it-yourselfers is the "antiquing" process. The favorite color combination is white with gold, although almost any pair of contrasting colors can be used. Some of the more interesting color effects are: Burnt umber over white, red over white (producing a pink-ice cream look), blue over white, black over white, gold over black, bright red over black, green over black, burnt umber over green, blue over green, and gold over green. In this article we are showing and describing the application of gold and white.

Our lead photos show the subject for our refinishing; an interesting little drop-leaf end table with a very dark finish. Which brings to mind that antiquing is popular with many people because they believe it is not necessary to first remove the old finish. Antiquing can be applied over an old finish with pretty fair results, but the finish will never be quite as attractive, nor durable, as when the old finish is first removed. Our first step, therefore, was to strip off the old finish.

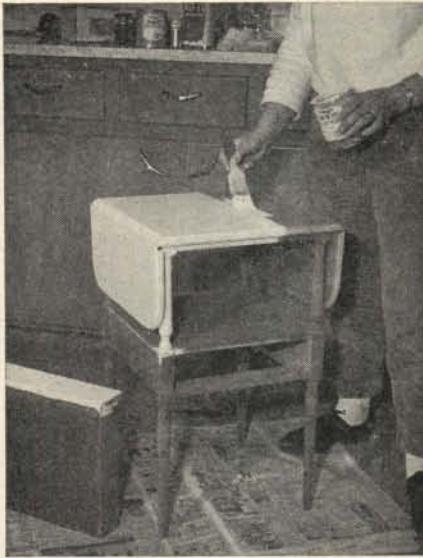
The stripped finish then is sanded,

but only very lightly. You do not want as smooth a surface for antiquing, as you do when you are going to apply a stain and a clear sealer. It is for this reason that in our professional stripping we treat the wood so the pores are left open. When you antique, you want the base coat of enamel to firmly bond with the wood, to eliminate later problems of chipping; a fairly common complaint on antiqued finishes.

The base coat is applied first, being brushed on. Keep brush strokes parallel to the grain of the wood. If "antiquing kits" are available in your local paint stores, we recommend that you purchase one. The reason being that you can be sure the glazing liquid will be compatible with the base coat. Ordinary enamels sometimes are "lifted" or will "orange peel" when a glazing liquid is applied over them. Only one coat of the base will be required to completely cover a stripped finish. However, if you are using ordinary enamel, or are applying the antiquing over an old finish, it is recommended that a first coat, thinned 20 per cent, be applied. After it has dried com-



After item has been stripped of old finish with remover, all surfaces of item are sanded, but only very lightly.



A coat of white, actually an off-white color known variously as French white, bisque, etc., is applied as base coat.

pletely, apply a second coat just as it comes from the can.

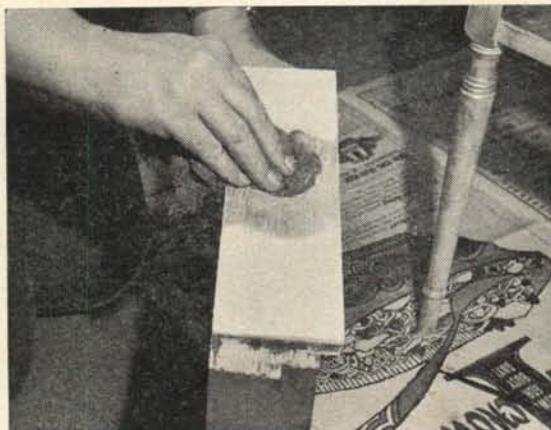
Be sure to follow the manufacturer's recommendations in regard to the drying time of the base coat. The glazing coat will not properly adhere if the base coat is not completely set. In preparing glaze, the desired color is added to a colorless glazing liquid. The color is made by mixing colors-ground-in-oil with the clear glazing liquid. Tubes of the color can be purchased at most paint stores. The color also can be used to tint the base coat, if a color other than white is desired. In the application shown, gold-colored powder, (bronze powder), in the ratio of $\frac{1}{4}$ oz. of powder to 4 oz. of liquid, was added to the clear glazing liquid. The liquid is applied with a soft cloth, using a circular motion to force the glaze into all irregularities. After the glazing has been thoroughly rubbed into the sur-

faces, the excess is wiped off with a soft cloth. For a "shaded" effect, wipe strongly in the center of a panel, lightly at the edges, so the center will be lighter than the edges. An artists' brush can be used to add highlights to decorations and to make grooves in turnings stand out more clearly.

When the glazing liquid has set completely, a protective coat of quality varnish is applied over it. Do not use a lacquer-base finish over the glazing; it will lift the glazing or smear it.

Antiquing probably is the easiest method to use in giving an old piece of furniture a new personality. Keep in mind that when you are decorating, one or two pieces of antiqued furniture in a room are fine as points of interest, but a room filled with antiqued furniture would be overpowering. Use discretion in your antiquing, and in your use of antiqued items of furniture.

Glazing color is added to clear glazing liquid—gold was used in this case—then glazing is "scrubbed" onto white base coat. Excess is wiped off surfaces, some left to provide "character" to appearance.



BUILD YOUR OWN POWER TOOLS—TILT/ARBOR SAW BANDSAW BELTSANDER SAVE 15% OR MORE

12" COMB. DRILL-PRESS LATHE DISC SANDER-GRINDER



Metal Parts Kit (less pipe for bed) \$29.95

Save \$50 to \$250!

10" TILT/ARBOR SAW

Ball bearing arbor. Cuts $3\frac{1}{4}$ in. deep, tilts 45 degrees. Capacity and performance of floor saws selling for \$150 and up.

NEW LOW PRICE

Metal Parts Kit \$19.95

10-in. Chrome-Edge Blade \$3.45

8-in. Blade \$2.25

12" & 18" BAND SAWS

(12" only illustrated)

Ball bearing drive, rigid cast aluminum wheels. Large tilting tables. Capacity and performance of band saws selling for \$95 to \$300.

Metal Parts Kit for 12-in. BAND SAW \$23.95

Metal Parts Kit for 18-in. BAND SAW \$39.95

Send check or M.O. in full; or \$3.00 deposit, balance C.O.D. All shipments Parcel Post or Express Collect.

SPECIAL!

PLANS, FULL-SIZE PATTERNS \$1.00 each, or SEND \$2.00 for Plans of ALL THREE Machines Illustrated above. REFUNDABLE. FREE CATALOG!

GILLION POWER TOOLS MFG. CO.

1109 North 2nd St.

St. Charles 53, Mo.

Speedy Sprayer



Tool of a dozen uses!

Motorized! Ready to plug in and spray! Use it to paint anything, from a toy to a house. Does an hour's painting in just minutes. Pays for itself on the first big job. Also use it to spray insecticides, weed killers, liquid fertilizer; vacuum, tire inflator, etc. A real professional tool needed in every work-shop. Ask for Speedy Sprayer "Compact" No. 404. **\$39.95**

Slightly Higher Dealer's Price.

Write for "How to Spray" booklet and catalog.

W. R. BROWN CORP.

Specialists in Portable Sprayers Since 1921

2655 N. NORMANDY AVE., CHICAGO 35, ILL.

130 FULL SIZE JIG SAW PATTERNS UP TO 10 HIGH

For an interesting and Profitable Hobby, make and sell Jig Sawn Toys, Novelty Items, etc. Order Catalog. To acquaint you with our many Jig Saw Patterns, we will send you 130 OF OUR MOST POPULAR FULL SIZE PATTERNS. Send 25c to follow instructions for ONLY \$1.00 POSTPAID.

S. LYNDS — PATTERNS
710 Park Ave. Natick, Massachusetts



THE POCKET SIZE MACHINE SHOP
Dremel MOTO-TOOL

In your workshop, on your job — it's the handiest tool you'll ever own! Moto-Tool is ideal for precision grinding, polishing, carving, drilling, engraving, deburring, sharpening — does fine detail work with pin-point accuracy. It eliminates time-consuming hand work, gives the finished job a professional look. Moto-Tool weighs only 13 oz. — fits your hand like it belongs there. Fastest, most powerful tool of its kind — develops 27,000 rpm! Widely used by tool and die makers, model builders, craftsmen, lab technicians, repairmen, gunsmiths, schools.

See your dealer or write for free catalog.



Moto-Tool Kit No. 2
with steel case
\$29.95

No. 2 Moto-Tool
only \$19.95

DREMEL MFG. CO.,
Dept. 373-A, Racine, Wis.
Quality Power Tools Since 1934



WIPE-AWAY PAINT REMOVER

- One application removes up to 8 coats.
- Old paint wipes away — no scraping.
- Non-flammable — No Fire Hazard.
- No drip or run on walls or ceilings.
- Leaves no residue — harmless to surfaces.
- Removes old "BUTTERMILK" paints other removers won't touch.

SAFE — SURE — EASY

BIG 1 1/2 lb. box only \$2.00 postpaid
(\$2.25 to West Coast States)

ANTIQUE CORNER, INC.
BOX 58-W, SOUTH BEND 24, INDIANA

LOW COST WELDER

FOUR-WAY WELDER

WELD - BRAZE - SOLDER - CUT

NO OTHER WELDER AT THIS PRICE INCLUDES THIS COMPLETE EQUIPMENT - FULL FACE SHIELD, HEAVY GLOVES, LEATHER GLOVES, 10' WELDING CABLES PLUS twin carbon arc torch, welding rod holder, carbon arc torch, electrode holder, soldering iron, instruction book. Make and repair auto bodies, parts, fenders, trailers, boats, metal furniture, fixtures, ornamental iron, farm equipment, garden tools, bicycles, tools, etc. Operate on any power source from 110 volt house current to 250 volt power plant. TRIAL - ONE YEAR GUARANTEE! More than 250,000 in use in homes, garages, farms, shops, factories. Now ANYONE can weld, braze, solder, cut, heat metal without experience. Does 100% jobs on all metals. Save and earn money.

SEND ONLY \$2.00

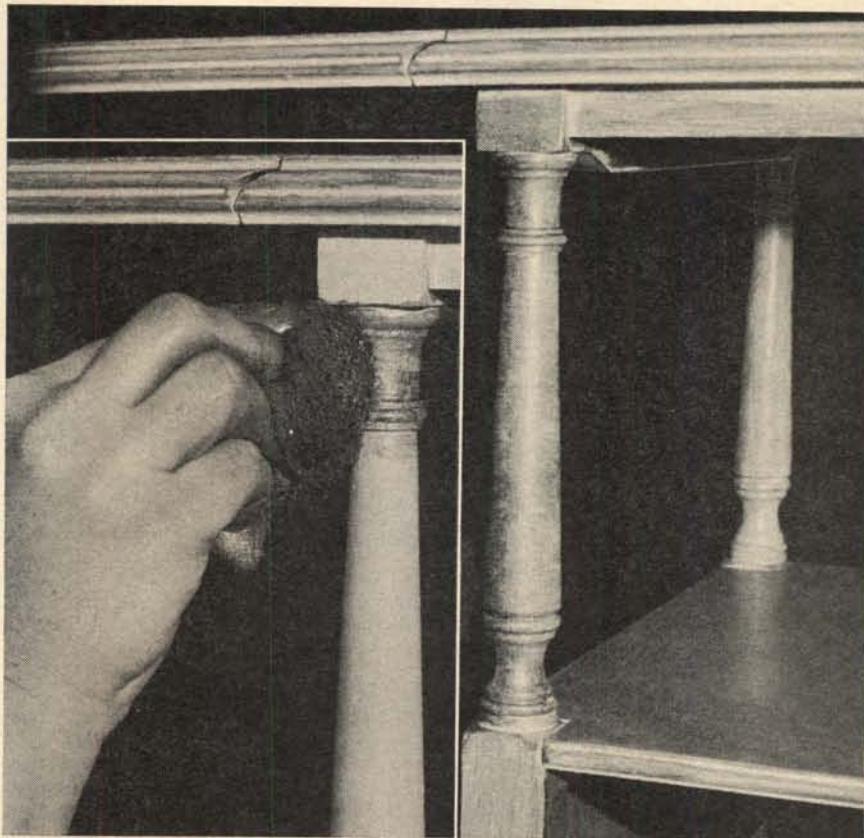
Pay postman \$12.95 plus C.O.D. charges. Practical lifetime gift for hobbyist, mechanic, auto restorer, hot rodder, homeowner. Order today on **10 DAY MONEY-BACK GUARANTEE**.

FOUR WAY WELDER CO. DEPT. W19-D.
1810 S. FEDERAL ST.
CHICAGO 16, ILL.

Garden WINDMILLS
FULL SIZE PATTERNS

Beautify your lawn with these picturesque old windmills. 4 to 6 ft. high. Easy to make. Full size patterns are shown by mail. Instructions. Send only \$1.25 for this big WINDMILL PACKET which includes patterns for both.

MASTERCRAFT PLANS, Dept. 319B
7041 Olcott Ave., Chicago 31, Ill.



On legs glazing liquid is scrubbed on the wood with burlap, then same burlap can be used to spread glazing color evenly over complete leg.

Q. In refinishing my boat I find that there are a number of areas where the new coat of varnish does not stick. I am using the best grade of marine varnish available. I did not remove the old varnish, but simply sanded it down, because an experienced boat owner told me that this would work.

A. We believe your problem is due to the fact that varnish will not adhere to a smooth surface, which is what the old varnish is presenting. You simply have not roughed the surface of the old var-

nish in the areas where you say the new varnish will not adhere. Bear in mind, however, that you can do too much sanding in some spots, and cause an uneven surface to the newly-applied finish. The trick is to sand enough to remove the gloss from the old coat of varnish without oversanding.

Q. Some time ago I purchased a very lovely antique table and had the dealer refinish it for me. I use this as a window table and set a rather large vase of artificial flowers, (no water in the vase), on



Small artists' brush is used to apply extra glazing color to grooves in leg turnings, provide added "character."

MY SPARE TIME HOBBY MAKES ME \$5.00 an hour CASH PROFIT

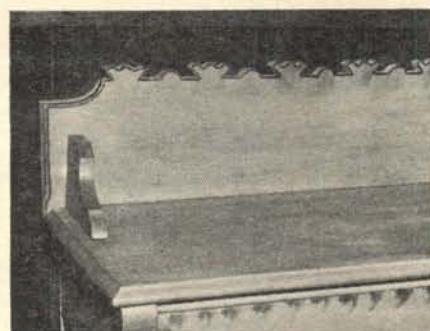
—Grover Squires



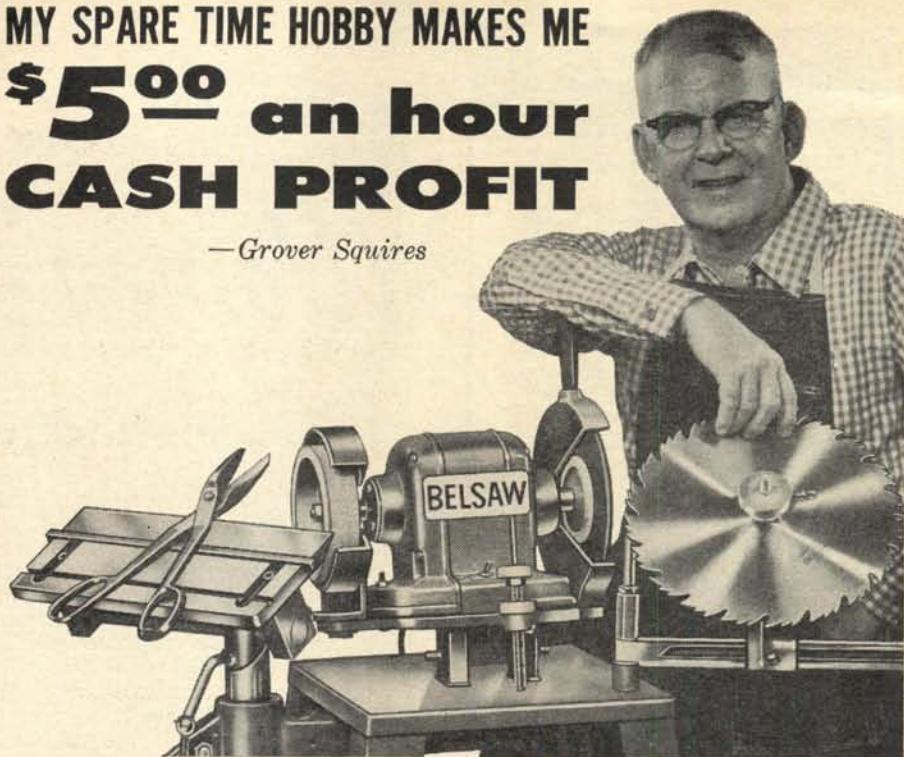
Protective coating is applied over final glaze coating, to protect it against wear. Use quality brush or wipe-on varnish; avoid lacquer-base finish.

it. Recently while cleaning I noticed that the vase had left a very noticeable ring in the finish. What could cause this, and how can I remove the ring?

A. I am quite sure your antique dealer applied a varnish finish on the table. The ring on the finish may have been caused by applying the second coat of varnish before the first coat was completely dry, or else the heavy vase was set on the table before the top coat was dry. Even though a varnish finish is dry enough to rub and polish, many times humid weather or soft ingredients in the varnish will cause the finish to remain sensitive to being marked over a long period of time. If the mark in the finish is not too deep, it is possible to remove it by rubbing around and over the mark with 3/F or 4/F pumice stone and rubbing oil applied with a felt pad. Do not rub too hard or you will wear through the finish and the spot will look even worse. If you dull the finish by rubbing, the shine usually can be restored by rubbing the spot very lightly with rottenstone mixed with water to form a "slush."



Edges of fancy trim on this commode were brushed with glazing color to provide an interesting effect on finish.



START YOUR OWN SPARE TIME BUSINESS



Now you can turn your spare time into Big Cash Profits with your own COMPLETE SHARPENING SHOP... Grind saws, knives, scissors, lawn mower blades... All popular household, garden and shop tools. Your own repeat Cash Business with no inventory—right in your own home—no experience needed—easy to operate—you start making money the day your Sharp-All arrives.

"I received my Sharp-All Monday and put it right to work. The first job came out factory perfect. This is the best investment I ever made."

—J. A. Howell
Taft, California

FREE BOOK tells how you can start your own spare time business while you are still working at your regular job... Easily build into a Big full time Repair Shop.

Low Cost — time payments only \$15.00 a month.

Send Coupon Today

BELSAW SHARP-ALL CO., 7503 Field Bldg., Kansas City 11, Mo.

Send Free Book "LIFETIME SECURITY". No obligation.

Name _____

Address _____

City _____

State _____



MAKE YOUR OWN WOOD NATURE TILES

With Colorful Leaves, Flowers, Butterflies
Permanently Preserved in Castoglas
POURS LIKE HONEY — SETS LIKE GLASS!



The Pansy shown in this photograph was embedded in crystal-clear Castolite in 1946. It is as lovely now as the day we picked it in our garden. NOW... a greatly simplified method enables YOU to do the same with Castoglas on wood, hardboard, metal or between layers of glass mat. **How You Can Make These Tiles.**

The four photos below illustrate the simple ABC's of the casting method. Apply Castoglas and Hardener to a clean piece of wood. Place a leaf on the wet surface and finish with a covering coat. It sets hard in 30 minutes at room temperature.

For your copy of "How to Make Nature Tiles," mail 25c to Dept. C-9.

THE CASTOLITE COMPANY, Woodstock, Illinois



5 pkts. for 25¢

INTRODUCTORY OFFER!

CLIMBING TOMATO

SAVE GARDEN SPACE. Enormous fruit — Thick — Solid and Delicious. Weigh from 1 to 3 pounds each. Grow 12 to 15 feet high. Excellent for slicing or salads.



CLIMBING CUCUMBER

Climbs readily on fences, trellises. Ideal for compact gardens. Bears early and one hill keeps a good size family supplied all through the season. 40 to 50 fruits from one plant.



YARD LONG BEANS

Rampant growers producing an ENORMOUS CROP of long, slender round pods, 2 to 4 ft. long. Excellent quality snap beans with enticing flavor.



VINE PEACH



Tempting ripe fruit in 80 days. Looks like oranges, grows on vines like melons! Easy to raise. Makes delicious preserves, sweet pickles, and jellies.

GARDEN HUCKLEBERRY

Unexcelled for pies and preserves. Thrives in all climates and soils — producing immense crops, larger than the common Huckleberry or Blueberry.



FREE: CATALOG INCLUDED WITH THIS OFFER

All 5 pkts. for 25¢

"Quality Seeds since 1878"

**E. J. MURVON SEED CO.
DEPT. 16**

NORWALK, CONN.



SIMPLY ELEGANT FLATS from Mexico. A delightful flat heel pump, handtooled floral design, buckle trim. Cozy and comfortable — for it's foam cushioned and leather lined. Sizes 4 to 10 (half sizes too). Black, bone or red in medium width. Tan in narrow, medium or wide width. \$8.95 ppd. COD's accepted. Guaranteed. Send for free catalog.

AMERICANA SHOP, 3243 Todd, Reed City, Michigan.

**Make Money
with Your Telephone**

NEW HOME BUSINESS. Men, women — no experience needed. No selling! Choose your own hours, full or spare time. We show you everything — tell you who to call, what to say, how to make money without ever leaving your telephone. **Free Copy**, "How to Make Big Money on Phone", full details, write TELEPHONE INSTITUTE, Dept. J793 1038 S. La Brea - Los Angeles 19, California

FREE COPY

CHAIR CANING KITS

Now anyone can restore his favorite antique and heirloom chairs easily and inexpensively with a Newell Caning Kit. Tools, natural cane, and "easy-to-follow" instructions, all post paid for only \$2; extra cane \$1 chair-lot.

NEWELL WORKSHOP, Dept. WB
19 Blaine Ave., Hinsdale, Ill.

WORKBENCH

Women's Page

DONA MEILACH

Distinctive Doors Decorate

TOO OFTEN when a room is remodeled or redecorated the doors are not considered in the over-all plan. Next time you are involved in such a project, treat the door, or doors, as highlights of the over-all decor, or blend them into your decorating scheme, rather than considering them simply as a means of entering and leaving a room.

If the remodeling has included installing a floor of resilient tile, use the same material to produce a door that is beautiful, and has the

added advantages of being scuff-proof and easily cleaned. Where a room is small or odd-shape, make the door match doors on cabinets or other furniture in the room, so the door itself becomes a part of the furnishings. A plain linen-closet door can become a delightful decoration with the aid of "rub-on" murals over a freshly-painted surface. Large, unusual pulls add to the beauty of the door.

When you panel a room, use the same paneling on the door so it

Photo courtesy Kentile, Inc.



Photo courtesy Artraco Murals

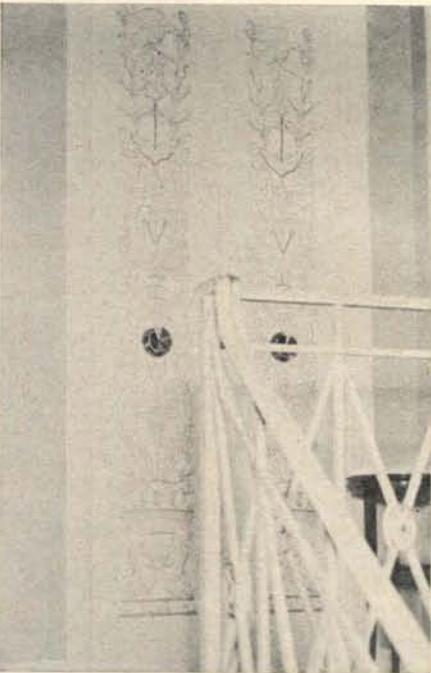
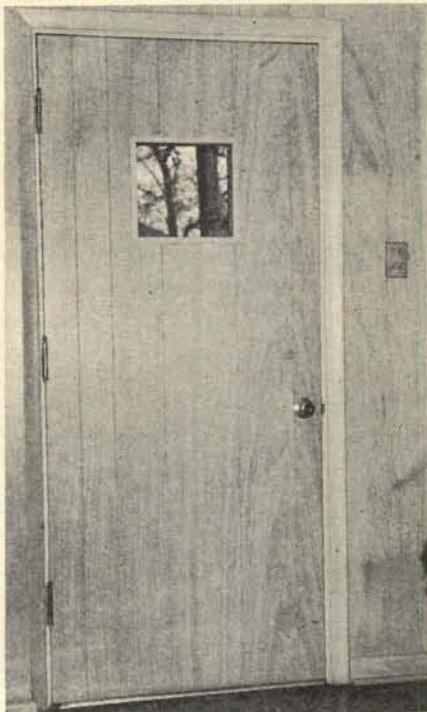


Photo courtesy American-Olean Tile Co.



Ordinary resilient floor tile can be used on a door to give it new beauty. Whether a double door, as shown, or a single, use strips of contrasting color between squares of the tile. Neat trick with door in small, or odd-shape room, is to match it to doors of cabinets in the room. Here, double, narrow louvered doors match those in the counter cabinet. White doors of this linen closet are highlighted with scroll patterns in gold. Patterns are "rub-on" murals at about 5 dollars a pair. Stair railing is "antiqued" with gold to match.

blends with the decor. In a room that is painted or papered, add a highlight by applying a sheet of $\frac{1}{8}$ -in. hardwood plywood of some



When room was refinished with lauan (Philippine mahogany) paneling, door was covered with same random-plank material to give it new look.

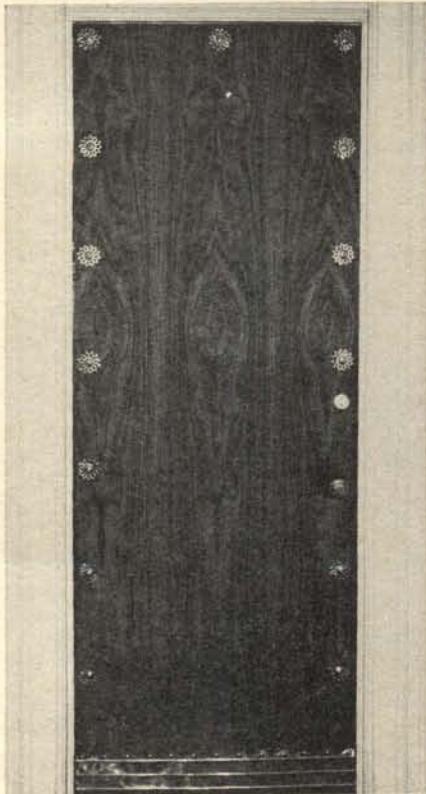


Photo courtesy Harry Linsky NSID

When 90-year-old home was remodeled, this door was updated by nailing on $\frac{1}{8}$ -in. plywood panel of rosewood. Medallions and kick plate are bronze.

FREE

FLORIDA NEWSLETTER

New, up-to-the-minute fact-filled *Newsletter* tells all the startling happenings in Florida today. What did President Kennedy predict for the Sunshine State's future? What's the *real* story on jobs? Business opportunities? Land investment? Low-cost (even free!) Winter vacations? East side versus West side? What's the low-down on space age developments? Citrus? Land? Tax savings? Find out today. Mail the coupon for free *Newsletter* about Florida in general and Cape Coral, a development of the Gulf American Land Corporation, in particular. Not the slightest cost or obligation.

**MAIL COUPON
TODAY TO:**

FLORIDA NEWSLETTER 5FN-10
557 N.E. 81st St., Miami 38, Fla.

NAME _____

ADDRESS _____

CITY _____

ZONE _____

STATE _____

AD 58022 (F-5)



make
gardening
fun!

Ariens
JET

FOR EASY ALL-SEASON TILLING
Ariens Super JET does all the "digging" for you—Spring through Fall. Tills 24" wide; has fingertip controls . . . power tine reverse — no tugging, pulling, lifting! Choice 5 engines, 3 h.p. to 5 h.p., for every tilling need.

Ariens MM **Emperor**

Choice 32" or 26" Flex-N-Float rotary mower. Many attachments for year 'round use. 6 h.p. engine, four speeds forward; reverse.

Write for free literature!

Ariens COMPANY
279 Calumet St., Brillion, Wis.



Don't read this UNLESS...

...you want a profitable hobby, a rewarding sideline, or your own full-time business. Perhaps you have seen Ornamental Concrete Items and wondered how they are made. You can make them, and in a professional manner. All you need is Molds and Knowledge. We'll sell you BOTH and you'll know what you are doing even before you start.

SEA HORSE BIRD BATH

One of over 300 different Ornamental Concrete Items you can make in CMC Molds.



NO. 225 HEN

Mold makes 15" high Concrete Hens. Price of Mold only \$40.00. No. 226 Chick, 6 $\frac{1}{2}$ " high. Price of Mold only \$10.50. Over 300 other molds to select from.

We manufacture and sell on a direct basis the industry's best molds. Durable, Dependable, High Quality, and of Aluminum. 96-pg. "How To Turn Concrete Into Gold" includes 29 pgs. of priceless instructions for professional results. Describes and Prices over 300 molds for Bird Baths, Benches and Tables, Flower Urns, Statues, Animals, Religious Items, and many more from 2" to 68" high. It gives the full story. Order yours TODAY—Rushed to you by First Class Mail. It's only \$2.00.



Manufacture And Sell Your Own
Ornamental Concrete Items
OVER 300 DIFFERENT DESIGNS

Concrete Machinery Co., Inc.
839 Lenoir Road, N.W. • Hickory 5, N.C.

Now!... PAINT YOUR OWN MURAL IT'S FUN with



MEYERCORD Paint-by-Pattern MURALS



Choose from big selection of designs for every room: Flowering Boughs, Scenics, Lemon Tree, Bird Cage, Circus Scene and many others . . . for as little as \$6.95! Each kit complete with Paints, Brush, "No-Trace" Pattern Sheet and everything you need to paint and complete your mural. Available now at leading Paint and Wallpaper, Hardware and Department Stores.

For Free Brochure and "Where to Buy" Write:

THE MEYERCORD CO., Dept. MHD, 5323 West Lake Street, Chicago 44, Illinois

A WATERTIGHT MIRACLE

TOUGH — YET STRETCHES 100%
Applies like paint . . .
for all surfaces

WOOD
METAL
MASONRY
CANVAS



LIQUID PLASTIC COATING

PUTS AN END TO YOUR PAINT AND SURFACE COATING PROBLEMS

Resists salt, acid, rust and rot



Now, modern chemistry offers you the best watertight, weatherproof and elastic finish yet produced. Applied like paint . . . brush it or roll it. Forms a tough skin that will not crack, peel or chip in 250° heat or 50° cold. Even a wallop will dent rather than shatter it. Cuts refinishing costs to 80%. Goes over old paints. Lasts up to 10 years. Used by U. S. Navy and Army, thousands of delighted home owners, boat owners, factories, etc. Available in plasticlear and 12 colors. Money back guarantee. Low factory prices.

Write for Free Literature, Color Chart and Factory Prices Today
SAV-COTE CHEMICAL LABS, INC., P. O. Box 2128-WB, Alexandria, Virginia

"Jorgensen"
and
"Pony"

CLAMPS

hold your work
These and many other designs described in literature sent FREE upon request. For big, 32-page "HOW-TO-CLAMP-IT" catalog, send 25¢.



the clamp folks | ADJUSTABLE CLAMP CO.
415 N. Ashland • Chicago 22, Ill.

IT CLEANS!

INSTANTLY
REMOVES
ALL
STUBBORN
STAINS!



If not available at your dealer, write Direct for FREE samples plus literature on other Quickee Specialized cleaners. Quickee—B. T. Babbitt, Inc., N. Y. 22, N. Y.

exotic wood. Use kick plates, rosettes, medallions and other metal items to give a distinctive look.

Strips of plastic tape can be used to mark off squares and rectangles that may be painted in brilliant, contrasting shades. The tape also is available in a variety of colors.

Finally, if the door simply looks "tired," strip off the old finish, give it a fresh coat of paint and add a new lockset of modern or period design to match room decor. △△

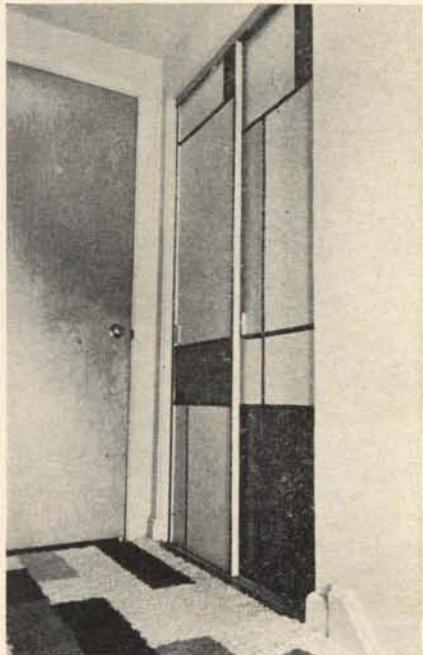


Photo courtesy Mystik Tape

Double sliding closet doors in short hallway were dramatized with rectangles of blue, yellow, red and white, separated with black plastic tape.

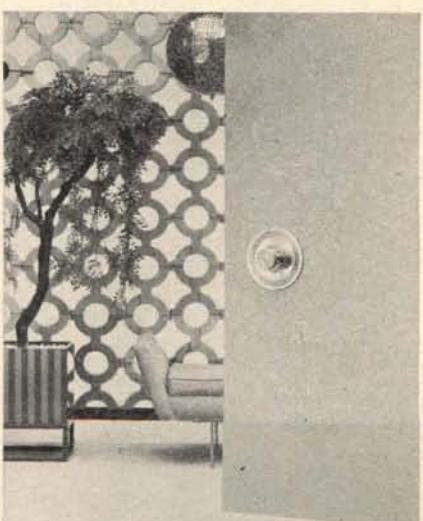


Photo courtesy Schlage Lockset

Simply stripping off old finish, applying new paint and installing new, modern lockset will do wonders for modernizing an old door, as shown here.

Developer - Stain REMOVER



All developer stains have been touched with iodine solution, as indicated by dark stains. Hypo on brush is eliminating stain of iodine and developer.

DEVELOPER STAINS on light-colored clothing that appear after laundering can be removed with a two-solution application. The first solution consists of potassium iodide crystals, 1 oz. and iodine, U.S.P. crystal, 200 grains, crushed to a fine powder and mixed with 16 oz. of water. Add small amounts of water, stirring well to dissolve the crystals. The second solution is sodium thiosulfate, pure, (crystals, pea or rice size, photo or granular grade), 1 lb., mixed with 16 oz. very hot water. Do not use a hypo with hardener added.

Touch each developer stain with a brush containing the iodine-iodide solution, then use a fresh brush to apply the hypo. The spots will disappear. Hypo washes out of clothing readily. While the hypo-iodine method works on most materials, check unknown material on an inconspicuous spot.



All the iodine and developer spots have disappeared, all that are visible are wet hypo spots that soon will disappear.

And You Can Do It Yourself

NEW pre-formed
steel-reinforced



Perma-Stone

SPECIALLY DESIGNED FOR "DO-IT-YOURSELF" INSTALLATION

Can be applied rapidly, easily — no fuss . . . no muss . . . just beauty and durability. Perfect for: flower boxes, fireplaces, recreation rooms, room dividers, walls, inside, outside, all around the house.

SEND FOR
FULL COLOR LITERATURE

PERMA-STONE COMPANY, DESK B
719 East Hudson Street, Columbus 11, Ohio

Yes — tell me more about NEW pre-formed Perma-Stone!

NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

NEW 1963 CATALOG



CRAFT
MATERIALS
and
SUPPLIES

94 pages of new materials for woodworking and crafts . . . new furniture trim, art glass, plastics, fiber glass, mosaic tile, lamp parts, moldings and other hard to get items. Illustrated and with money saving mail order prices. Just send 25¢ which will be refunded with your first order.

MINNESOTA WOODWORKERS SUPPLY CO.
1713 Olson Hwy., Minneapolis 5, Minn.

HOW TO Improve Your Hearing Without a Hearing Aid?

Maybe you, too, can hear better without a hearing aid if you follow suggestions in new book, "How To Get the Most From Your Remaining Hearing". It's full of facts like where to sit in church, and how to hear in a noisy room.

FREE
Booklet

MAICO Electronics, Rm. 259-P, 21 N. 3 St., Minneapolis, Minn.
Please send free Booklet.

Name _____

Address _____

City _____ State _____

WALL and CEILING CRACKS

REPAIRED
PERMANENTLY
WITH
TUFF-KOTE
AND
Glass Fabric

Puts an end to patching cracks every time you paint. Tuff-Kote used with Glass Fabric never hardens, shrinks, swells, chalks or dries out and it's invisible when painted. Clean and easy to use.

At all better paint stores. Accept no substitute. Write for FREE folder and name of nearest dealer.

TUFF-KOTE CO. 229 Seminary Ave., Woodstock, Ill.



FREE
GIANT
MURAL
CATALOG

PAINT YOUR OWN WALL MURAL!

NEW "PAINT-BY-NUMBERS" METHOD! No artistic talent needed. Enjoy the beauty, creative satisfaction of painting a lovely 5 to 14 ft. wide mural directly on your wall! Fun! Easy! Takes only 3 to 5 hours. Artists charge up to \$350; wallpaper scenes cost \$100 and more. Our complete kits, \$12.95 up! Modern provincial, oriental, designs. Send for FREE Color Catalog, "How to" details (enclose 10c for post, hdg.). MURAL ARTS, Dept. J793, 1038 S. La Brea, Los Angeles 19, California.

BEL-SAW-SHARPNER



only \$39.50

Shipped Prepaid
Easy Payments

NOW YOU CAN BE AN EXPERT SAW SHARPENER . . .

Without any previous experience you can sharpen all popular types and sizes of circular saws. Save money on your own sharpening . . . make money sharpening for others.

Bel-Saw Sharpner quickly attaches to your bench grinder or any motor equipped for grinding wheel.

Compact, portable, mounts right or left of motor. Rounds saw to perfect circle, grinds tooth gullets to uniform depth, shapes and sharpens teeth. Tapered cone takes all popular saws. Gives correct hook angle. Scale for BEVEL grinding up to 30°.

Order Today—Money-Back Guarantee

Use the **Bel-Saw Sharpner** for 30 days . . . if not fully satisfied we refund your money. All parts guaranteed for FIVE YEARS.

Comes to you with saw grinding wheel, dressing brick, complete illustrated directions.

Shipped PREPAID \$39.50 or \$10 down \$10 a month.

BELSAW ENGINEERING CO

443 Field Bldg., Kansas City 11, Mo.

HERE'S HOW TO GET

CUSTOM FLUORESCENT LIGHTING

... at a fraction
of the usual cost!

DO-IT-YOURSELF KITS DIRECT FROM MAKER

Superior lighting for homes, workshops, special effects. Beautiful aluminum construction. Create special crafted fluorescents in minutes. COMPLETE WITH STEP BY STEP INSTRUCTIONS. Satisfaction guaranteed.



HIGH LIGHT OUTPUT 2 lamp 20 watt-24 inches long, easily hung from lamp fixture. Gives 25% more light than 100 watt bulb. Only \$3.95. Add \$1.90 for 2 7500 hour lamps. Include 65¢ for postage and handling.

Others from \$1.95. 10¢ brings complete catalog of kits, fixtures and parts.

SHOPLITE CO.
650-B FRANKLIN AVE. NUTLEY 10, N. J.

Clock Plans & Movements



Build this beautiful grandmother clock from kit which includes plans, 110V movement and dial, only \$9.95. Fed. Tax included. Send 10¢ for 24-page booklet describing other plans, movements, dials and moldings.

CRAFT PRODUCTS, ELMHURST 7, ILL.

AMAZING BOX JOINT DEVICE

Box joint the hardest wood **\$4.98** with extreme accuracy.

Attach to saw fence and you're in business. Send check or M. O. to



HOWE MACHINERY

Dept. W-8, 30 Gregory Ave., Passaic, N. J.

Fantastic Savings on NEW ACCORDIONS $\frac{1}{2}$ OFF

SAVE UP TO $\frac{1}{2}$ OFF PRICES OF COMPARABLE ACCORDIONS
40 New Models—Easy Terms
Just arrived! More than 40 new electronic new accordions—amplifiers! Packed with new ideas, new styling, new features! Buy direct from world's largest exclusive accordion dealer! Importer-To-You Prices! Easy Terms: LOW DOWN PAYMENT. Money Back Guarantee. FREE BONUS! Trade-in welcomed! FREE Color Catalog!

5 DAY
FREE
TRIAL

LIFETIME GUARANTEE
FREE
Accordion Corporation of America, Dept. WK-33
2003 W. Chicago Ave., Chicago 22, Ill.
Send Free Catalogue—Special Discount Price List.
NAME _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____
 Check here if you have a Trade-in.

WORKBENCH

Research Department

Each issue in this column we will choose questions on home and shop subjects from letters sent to us. Only those questions which have wide appeal will be answered here. Questions on specialized subjects will be answered by individual letter from the Research Editor's Desk.



I have tried for a number of years to get grass to grow under trees on a north-sloping curb space, the distance from curb to walk about 10 ft. When sowed in the early spring the shady mixtures will catch and grow in a rather spindly fashion, but will not winter over. There is some moss under each tree, which I have dug up each year. It always comes back. What should I do that I'm not doing now to get grass to catch and grow and winter over? Let me know now so I can do it right come next season. R. B., Ill.

You don't mention the kind or size of trees involved, or how spaced. So we'll have to assume something and base our answer on this assumption. If the trees are quite large and the foliage heavy, such as that of most of the maples, and the trees are so closely spaced as to admit little direct sunlight during the day, then we'd say that your best bet is to give up the fight for grass and concentrate on a ground cover of plants which will grow in dense shade. There are a number of these plants such as Japanese spurge, Periwinkle and English ivy, the latter being in some respects best of all. It is quite easily propagated by cuttings. Of course, it's going to take some time to get such a ground cover started but once you get it going it usually winters well. The soil should be well prepared and generously supplied with plant food.

I have a problem with my outside decking that is constructed of fir 2 x 6s with about $\frac{3}{4}$ in. between the beams. The decking is open at both top and bottom, and is supported on 2 x 10 joists. The first year I painted the top and bottom with exterior enamel. The following summer the paint peeled off in huge sections. I scraped off most of the old paint, put on another exterior-enamel undercoat and two more coats of deck paint. This past summer again the paint came off in huge chunks, simply lifting and peeling away. Would you have any recommendations for this job, considering this damp area? Mr. H. R. H., Des Moines, Wash.

Did you prime the wood with an outside undercoater (such as "Firzite") before painting? If not, then you are likely to have the trouble you describe. Even though primed with an undercoater, ordinary house paints cannot be expected to stand up for more than two seasons, as the film is subject to the erosive action of raindrops striking the surface direct. This causes tiny breaks in the film which allow water to penetrate to the wood. Eventually the film lifts and peels as you describe. Fir, especially if it is not thoroughly seasoned, does not hold paint well, due mainly to the great variation in density of the grain. If you can remove the old paint to the bare wood and apply an undercoater as the first coat, you likely will get somewhat better service from the top coat. Of course, the wood must be thoroughly dry before the undercoater is applied. You might also check with your paint dealer as to the use of a sealer-stain, such as made by "Rez." These finishes will wear with weather, and require renewing, but will not peel as will paint because they penetrate the wood. To renew, you just apply more of the sealer-stain.

When I built my flagstone patio at the back of my house I left no space between the patio and house to permit the water from the down-

spouts to drain away. Water running from the downspouts across the patio has caused rust stains on the flagstones and on the mortar between them. What can be done to help the situation, can the rust be removed, and is there a sealer of some kind for the flagstones to keep out moisture? Mr. G. T., Norwood, Mass.

Unfortunately, the damage has been done and it's going to take some doing to correct the defects. You can reduce the prominence of the rust stains somewhat by scrubbing the flagstones with a medium to strong (about 2 tablespoonfuls to a gallon of water) solution of trisodium phosphate. Afterward, the stones can be coated with a masonry sealer. The installation of a drain, of course, is another matter. You could install aluminum gutters and downspouts and stop the rust problem. This would mean sacrificing the present installation, as it would have to be torn down. The rust and corrosion-resistant aluminum would eliminate further rust stains, however.



The paint on the panels of my garage door splits and peels off, although the paint on the frame around the panels holds very well. Is there anything that I can do about this, or must I replace the wooden panels? Mr. A. B., Hackettstown, N. J.

Is the back of the door painted or varnished? If not, then an application of paint or outside varnish to the back of the door will tend to prevent penetration of moisture, which is the cause of the paint peeling. Or, sand off all loose particles and flakes of the present coat, and apply one of the "breathing" paints that do not peel under excessive moisture conditions.

WOODWORKERS

YOUR COMPLETE MONEY-SAVING

BUYING GUIDE

for 1963

IS NOW READY

NEW

Exclusive Rainbow Veneers. Here are the finest veneers in the world dyed in gorgeous rainbow hues...from subtle pastels to rich, vibrant, fiery colors...to add more beauty, drama and interest to all your creations at the low prices!

NEW

Lane Wood Picture Kits. Father of our Dog (picture on cover) many more, including an 18" x 28" rendering of the "Last Supper" containing more than 550 pieces cut from the finest veneers available, all ready to glue in place to create a true masterpiece in wood.

NEW

Complete Wood Carving Department featuring the largest collection of fine foreign and domestic woods available anywhere...plus complete assortment...plus signature of mallets and other equipment...carving tools, books on wood sculpturing, etc. . . . everything for both amateurs and professionals.



NEW

A new collection of veneers never before available to craftsmen anywhere: Sengen, Hackman, Cuban, Irime and Mansonia are some of the new additions to the most complete assortments of fine-quality, rare foreign and domestic veneers available anywhere in the world—all at prices far below what you'd expect to pay!

NEW

Oak Blanks for making steak plates and chopping blocks for the kitchen—already laminated and ready for finishing... Ash Blanks for ball bats... New plans for dozens of exciting new projects—all at prices that are really low!

NEW

You'll find page after page of exciting new items too numerous to mention here—ranging from hardware, the latest in tools specifically designed to fill the needs of both professional and amateur woodworkers—but see for yourself... mail the coupon below today... NOW!

Since 1812...

World's Largest Source for Rare Imported and Domestic Woods, Woodworking Supplies, Tools, Hardware, Plans and Projects

Send today for Constantine's big new 130-page Catalog and Manual for Woodworkers, long-recognized by professionals and hobbyists as the world's one truly complete source for woods, woodworking, tools, materials and equipment. Whether you work with wood for fun or profit you're sure to find everything you need in Constantine's big exciting catalog—and at SURPRISINGLY-LOW MONEY-SAVING PRICES! Rush coupon right for your copy today. Enclose 25¢ with coupon to help pay postage and handling.

Albert Constantine and Son, Inc., Dept. C-8
2050 Eastchester Rd., New York 61, N. Y.

Albert Constantine and Son, Inc., Dept. C-8
2050 Eastchester Rd., New York 61, N. Y.
Enclose 25¢ for new 1963 Constantine Catalog and Manual for Woodworkers.

Name _____
Address _____
City _____ Zone _____ State _____

NOW! A NEW THRILL FOR YOU!

Trailing Mum Vine

★ Trails 4 to 5 Feet
★ An Indoor Sensation

\$1.00

(2 for \$1.75)

EA.

(3 for \$2.50)

You'll steal the show with this astounding TRAILING MUM VINE! Train it any way you like—heart-shaped, triangle, rectangle, oval. Place it on the mantel, table, bookshelf, cabinet. Soon the tumbling mums cascade downward in sensational trailing fashion. DON'T WAIT! SEND NO MONEY! On delivery, pay \$1.00 for 1 plant, \$1.75 for 2 plants, or \$2.50 for 3 plants, plus C.O.D. charges. On prepaid orders add 35¢ for postage and handling. If not 100% satisfied, we'll gladly refund your money—you don't even have to return the plants.

INDOOR BLOOMING. Watch the trailing vines send out a shower of beautiful mums. A fascinating indoor spectacle. Be the first to display this sensational Trailing Mum Vine! LIMITED SUPPLY. Send for yours today.

CLIP THIS — MAIL TODAY

HOUSE OF WESLEY NURSERY DIVISION
R. R. 1, Dept. 801-48
Bloomington, Illinois

Send me _____ Trailing Mum Vines

Name _____

Address _____

C.O.D.
 Prepaid

FREE GIFT

For your immediate order, we'll send you absolutely FREE an amazing air plant leaf. Lives on air—just pin to a curtain and watch this amazing leaf send out 8 to 12 tiny new plants.



EARN EXTRA MONEY

With Amazing "HEXE"
AUTOMATIC NEEDLE THREADER

HEXE—World's
Most Perfect
Needle Threader
SATISFACTION
GUARANTEED



The Outstanding Demonstration Seller that threads all size needles with the simple press of a button.

MAKE UP \$7.00 AN HOUR

by simply showing people how this unique and useful device operates. Call on homes, stores, factories, taverns. Wonderful for gifts, fund raising, or door-to-door. Men as well as women will be fascinated by this mechanical wonder. SELLS ITSELF wherever it goes. People pay for only \$1.00. Our Proven Sales Plan shows you how.

Free needles and thread, together with Guaranteed Sales Plan, come with all initial orders. Order at these low prices:

Two demonstrator samples—\$1.00
1 Dozen Threaders \$4.75... Your profit—\$ 7.25
3 Dozen Threaders \$13.00... Your profit—\$ 23.00
1 Gross Threaders \$40.00... Your profit—\$104.00
Save Shipping Costs. We pay all transportation charges when full payment is included with order. (C.O.D. orders must include 25% deposit.) Satisfaction Guaranteed. ACT TODAY!

NORTHERN IMPORTERS, Dept. B-43
2453 Morse Ave. Chicago 45, Ill.

How People 50 to 80 May Apply For Life Insurance

If you're between 50 and 80, Old American now invites you to apply for its Golden Eagle \$1000 life insurance policy. Once the policy is issued, you may continue to enjoy this old line legal reserve protection the rest of your life. Handle entirely by mail—no one will call!

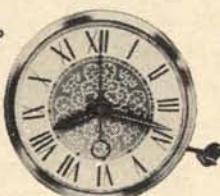
We'll tell you how to apply to put this policy into effect at a special introductory rate for the first month. Just tear out this ad and mail it today with your name, address and year of birth to Old American Insurance Co., 4900 Oak, Dept. L306M, Kansas City 12, Missouri.

Electric CLOCK MOVEMENTS

Quality movement,
attractive design with
Roman numerals. Sweep
second hand. 110/120
volts, 60 cycle a.c.
Underwriters Lab. ap-
proved. Complete with
metal back & cord,
ready for installation.
Full year guarantee.

Model T3—Dial 3-3/8"
diam. \$5.50

Model T5—Dial 5-7/16"
diam. \$6.00
(10% discount on
6 or more)
Prices POSTPAID in USA. W. Sacramento, Calif.



FREE LITERATURE
COLONIAL WORKSHOP

P.O. Box 377 W

NO MONEY DOWN!

Florida

HOME-SITES
\$495

Lovely 1/4 acre sites in Central Florida hills, lake, grove area \$495, no money down, \$10 a month • 5 miles from famous Rainbow Springs • Electricity, phones • 22 miles to Gulf Coast • Fish, hunt • Invest or retire, FREE color folder • Write Dept. 670-A Rainbow Park, Box 521, OCALA, Florida.

AD62070 (K) (O)



There are copper-plated handles and hinges on my kitchen cabinets. I would like to make them antique copper; can you tell me the process involved to make an antique finish on the hardware? Mr. S. P. C., Elmhurst, N. Y.

Sorry, but you cannot antique copper-plated cabinet hardware. Only solid brass and copper can be antiqued successfully. In this we are talking about a true job of antiquing the metal itself, not an antiquing job accomplished with various kinds of coatings, which we do not recommend.

My home is on the bank of a river and the soil surrounding the house is sandy. I have a driven point and a shallow-well piston-type pump. We used this for three years with no trouble until recently. My wife watered our new lawn and garden daily all summer long, and there was plenty of water, which leads me to believe the trouble is with the point. It now takes quite a while for the pressure to build up, although the pump has been repacked and checked for leaks. (There were no leaks.) Now, should I replace the point, and, if so, what type point should I use? Should I drive the point down to the same depth as presently, or should I drive it deeper? Mr. J. P., Hartford, Conn.

Before incurring any additional expense, we'd try driving the point deeper, at least 5 ft. deeper. Your water table may have lowered suddenly for some reason, perhaps even more than 5 ft. We'd do this first and note results. Perhaps the next step would be to pull the point and clean it, although it seems unlikely that it is clogged.

We are using our water resources faster than nature can replace them, and the water table all across the country has been lowered many feet in the last few decades.

GRANDFATHER CLOCKS

Build your own
Grandfather and Grandmother
WEIGHT DRIVEN
Chime movements with brass
moving moon dials. Also with
plain brass dials.

Pre-cut case kits available.
Large selection other movements
Barometers, Hygrometers,
Thermometers.

Large Selection Case Plans.
Largest Stock Movements in U. S.
Send 50c for 26 page new 1963 catalog.
Est. 1947

S. A. BYERS
SUCCESSOR TO R. W. HOLWICK
P. O. Box 3175-M Daly City, Calif.

DOLLS!

learn world's
most fascinating
business



We teach you to make, repair, and sell all kinds of Dolls and accessories. Study at home. Excellent money making opportunities in every locality. Start a business part or full time. Easy to learn. Low monthly payments—many pay for their course out of earnings made while learning. We show you how. May we send FREE and without obligation our informative booklet? No salesman will call. For an exciting future, ACT NOW!

NORM and SUE MORRIS

LIFETIME CAREER SCHOOLS

11824 SAN VICENTE BLVD., Studio WB-33
LOS ANGELES 49, CALIFORNIA

EAR NOISES

relieved!
... thousands reported



Wonderful relief from years of suffering from miserable ear noises and poor hearing caused by catarrhal (excess fluid mucus) conditions of the head. For the past 23 years that's what folks (many past 70) reported after using our simple Elmo Palliative HOME TREATMENT. NOTHING TO WEAR. SOME of the symptoms likely to go with your catarrhal deafness and ear noises: mucus dropping in nose or throat every day; hear—but don't understand words; hear better on clear days—worse on bad days; ear noises like crickets, bells or others.

Write TODAY for PROOF OF RELIEF and 30 DAY TRIAL OFFER. Pay only if helped. THE ELMO CO., Dept. 3WH3, MADRID, IOWA

Now Many Wear

FALSE TEETH

With More Comfort

FASTEETH, a pleasant alkaline (non-acid) powder, holds false teeth more firmly. To eat and talk in more comfort, just sprinkle a little FASTEETH on your plates. No gummy, gooey, pasty taste or feeling. Checks "plate odor" (denture breath). Get FASTEETH at drug counters everywhere.



Weave Rugs EASILY AT HOME

MAKE BIG PROFITS—full or spare time business right in your home. YOU can weave beautiful, serviceable rugs on low cost loom that comes complete ready to weave. All necessary accessories included. Just a few days weaving will pay cost of loom. Send for FREE loom folder, sample card, and low prices on wefts and supplies. Get started now on this easy way to year round extra income!

OR. RUG CO. • Dept. 1363 • LIMA, OHIO

OLD FASHIONED CANOPIED
LAWN SWING &
FOLDING PICNIC TABLE

Patterns for this "4-seater" LAWN SWING & Novel PICNIC TABLE which quickly converts into a comfortable LAWN BENCH. Both fold flat and are easily made. Only \$1.25.

Mastercraft Plans, Dept. 22B,
7041 Olcott Ave., Chicago 31.



I would like to know how old oil lamps and coffee pots are stripped. These items have a copper or bronze body and are nickel-plated. I would like to know if a setup can be made for one to do this job without the need for professional help. Mr. W. D. B., Fort Worth, Tex.

The process of stripping nickel plating from brass involves the use of chemicals we cannot recommend for household use, due to the health hazard. Take the items to someone who is equipped for this work. The cost is quite nominal.

I have a newer-type home with a low-pitched roof. The roof deck is 4 x 8-foot sheets of $\frac{3}{8}$ -in. plywood. There's a leak about half way up to the ridge that I can't locate for sure. I first noticed a slight stain on the underside of the plywood above where the leak has developed, or where the water comes through at a joint between the plywood panels. The shingles seem to be in good condition. How does one locate and repair a leak in a roof decked with plywood? M. W., Ohio.

It's not so easy to pinpoint a leak in a roof having a plywood deck, as should be obvious. However, you do know that within a distance of about 4 feet or less above the point where the water comes through the joint you'll find the faulty shingle or break, or nail hole—whatever is admitting water to the deck. One way is to go into the attic and drive back the roofing nails in an area above where the leak appears. This step will lift the shingles and once you get up on the roof it is likely you can spot the defect. It may be a turned nail, hammered down, a split in a shingle tab, a nail not seated fully, permitting driven rain to work under the shingle tabs, or a leak may be due to damage caused by some falling object, a stone or tree limb. Once you have the cause located it should be a simple matter to correct it, either by replacing a shingle or by sealing with roofing cement. Work carefully and be sure to replace the shingles in the same order and in the same position they were.

NOTE: A number of readers have asked for a list of sources of materials for home craftsmen; we believe if you will look through our ads you will find most materials you require. Our advertisers sell woods, veneers, tools, plastics, finishes, fasteners, casters, home-study courses on various subjects, hardware, adhesives, welders, cleaning materials, paint removers, rug looms, clamps, patterns and a host of other items and supplies.



Has shop in basement—gets "more and more work all along"

"I HAD PRACTICALLY no knowledge of any kind of repair work. One day I saw the ad of NRI in a magazine and thought it would be a good way to make money in my spare time. Now I am busy almost all my spare time and my day off—and have more and more repair work coming in all along. I have my shop in the basement of my home."

—JOHN D. PETTIS,
172 N. Fulton, Bradley, Illinois

IF YOU'VE BEEN WANTING TO START "A LITTLE BUSINESS OF YOUR OWN" IN YOUR BASEMENT OR GARAGE

CHECK the advantages of NRI training in Servicing Electrical Appliances

- STEADY DEMAND** for your services. Over 400 million appliances in U.S. — 6 million sold last year alone — mean shortage of trained appliance service men.
- NO ELABORATE EQUIPMENT NEEDED** — just simple hand tools, and Appliance Tester which we provide at no extra charge.
- START SMALL — GROW BIG.** You can start out in your own basement or garage, in spare time. Gradually expand until you open your own shop.
- NO PREVIOUS EXPERIENCE OR TRAINING NEEDED.** We tell you and show you everything you need to know, in plain English and clear pictures.
- NO NEED TO RISK YOUR SAVINGS.** Many businesses require a sizeable investment. But here you can build up a following of customers first, then open a full-time shop if you wish to.
- EARN \$3 TO \$5 PER HOUR.** Fixing appliances is a high-paying skill because the demand for trained men is so great.
- ENJOY SEMI-RETIREMENT ON A GOOD INCOME.** When you're ready to retire, you can devote a few hours a day to this work. Live and work anywhere you please.

IF YOU'RE like so many men today, you've been "hankering" to start "a little home business of your own." In spare time at first, then maybe full-time later on. Something you'd enjoy — and that pays well. Something that fills an existing need in your neighborhood or town — that "sells itself," without any high pressure arguments — that doesn't take a big investment or elaborate equipment.

This is it—Servicing Electrical Appliances! Now is the perfect time to get into it. Sales of electrical appliances have skyrocketed. Look how YEARLY SALES have risen since 1950: Coffee Makers — from 900,000 to 4,750,000. Room Air Conditioners—from 200,000 to 1,800,000. Clothes Dryers—from 318,000 to 1,425,000. Floor Polishers — from 240,000 to 1,090,000. No wonder that men who know how to service appliances properly are making \$3 to \$5 an hour—in spare time or full time!

Your Skill Always in Demand — "Set Up Shop" Anywhere

People need their appliances fixed in good times or bad. Once word gets around that you are trained to service them, you'll have plenty of work.

Your training costs less than 20¢ a day. And you need only the few basic tools you may already have — and an Appliance

Tester which we provide at no extra charge. You can work anywhere—in a corner of your basement or garage, even on the kitchen table. If you like, you can open up your own shop, have others work for you. And you can save money by fixing your own appliances.

FREE BOOK and Sample Lesson

Our 24-page Free Book tells you how you can "cash in" on America's "Electrical Appliance Boom"—the money our students are making, what they say about us.

Free Sample Lesson shows how simple and clearly illustrated our instruction is—how it can quickly prepare you for a profitable future in this big field. Mail coupon, letter, or postcard to: National Radio Institute, Dept. U3C3 Washington 16, D.C. (No obligation — and no salesman will call on you.)



NATIONAL RADIO INSTITUTE Dept. U3C3 Washington 16, D.C.

Please send me Free Book about your Electrical Appliance Repair Course and a Free Sample Lesson. I am particularly interested in:

- Spare Time Earnings Business of My Own Better Job

I understand there is no obligation on my part; and no salesman will call on me.

Name.....

Address.....

City.....

EARN WHILE YOU LEARN



— Yours

at No Extra

Charge

Your NRI Course comes complete with all the parts to assemble a sturdy, portable Appliance Tester that helps you earn while you learn. Easy-to-follow manual tells how to assemble and use the Tester right away. Locate faulty parts, short circuits, poor connections, etc. in a jiffy; find defects in house wiring; etc.; measure electricity used by appliances; many other uses.

With this Tester you save time and make money by doing jobs quicker, making sure appliances operate correctly after repairs.

Mail This Money Saving Coupon

100 GLADIOLUS BULBS

MICHIGAN NURSERY GROWN... only \$1

Mail coupon before May 15 and get 100 GLADIOLUS BULBS for only a penny a bulb! These glads were grown in the fertile soil of Michigan. Are mixed in a stunning array of reds, yellows, pinks, purples, white, crimson, violet, multicolor, etc., as available. These bulbs are small and with normal soil, care and growing conditions will give you many blooms this year and grow on to larger bulbs that give startlingly beautiful gladiolus colors year after year. Any bulb not flowering 5 years replaced free. Mail coupon now to get this wonderful bargain delivered for Spring Planting. Satisfaction guaranteed or return within 10 days for purchase price refund.

100 GLADS \$1.00

200 for \$1.94

500 for \$4.50

Send C.O.D.
plus postage.

Cash order
add 35¢ and
we ship postage
paid.

NAME.....

ADDRESS.....

CITY..... ZONE..... STATE.....

DUTCH BULB IMPORTERS—Dept. GX-1608—Grand Rapids 2, Mich.



FOR SPRING PLANTING



Now you can take end-mounted motors (major appliance type) and use them with your power tools. It's economical and easy with a sturdy LEWACO Heavy-Duty Motor Mount. Only \$1.75 ppd. Order W-104 from: LEWACO, Box 357, Mound, Minnesota.

Use Appliance Motors in the Workshop!

FREE GUIDE Reveals 200 Ways to Make Extra Money

YOU can turn your spare hours into cash (\$25 to \$100 a week) by selling products and services to friends and others. Famous *Salesman's Opportunity Magazine* shows you how. Contains hints, plans, hundreds of offers. No matter what your age, experience or occupation—write TODAY for next 5 issues—absolutely FREE. Send no money just name. OPPORTUNITY, 850 N. Dearborn, Dept. 646, Chicago 10, Ill.

MADE \$1200 ON ONE JOB

*Some make more, some less
We help you start Your
Own All-Year Business*

Make BIG Money! G. H. Jones made \$1200 on one school job with our highly efficient wall washer which cleans walls 6 times faster and better than by hand. No special skill...small investment...operate from home. Customers everywhere—homes, offices, schools, churches, hotels, etc. Enjoy independence...free from layoffs and bosses. Can start part time until full time is justified.

Write Today for All the Facts!

FREE BOOK—MAIL COUPON TODAY

VON SCHRADER MFG. CO.
352 "W" PI., Racine, Wisconsin

Name _____
Address _____
City _____ Zone _____ State _____

TOOLS **WHOLESALE**

\$1.00
PUTS YOU IN
BUSINESS



Start your own business, sell tools to your friends and neighbors, or buy tools for your own use and **SAVE MONEY \$\$\$**

A MILLION DOLLAR INVENTORY AT YOUR FINGERTIPS. NO STOCK TO CARRY. ORDER AS YOU NEED IT. Send \$1. for Tool Catalog today.

BUY AT WHOLESALE PRICES. Extra \$25.00 profit on your accumulated purchases. \$1.00 refund on first purchase or refunded if you're not 100% satisfied with our offer.

THOUSANDS! of Nationally Advertised items of Hand Tools, Power Tools, Machinist Tools, Tool Chests, Paint Sprayers, Light Fixtures, Appliances, Guns, Gifts, Toys and other items too numerous to mention.

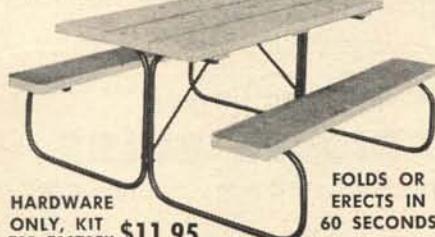
WE SHIP COAST TO COAST
Wholesale Discounts up to 50% OFF

SILVO HARDWARE CO.
Dept. WB-3, 107 Walnut St., Phila. 6, Pa.



Bar-B-Nic FOLDING PICNIC TABLE

EASY TO ASSEMBLE!



HARDWARE ONLY, KIT FOR FACTORY \$11.95

- Folds Flat for easy storage.
- Slides like a sled.
- Comfortable "Walk-In" design.
- Heavy duty plated finish steel.
- Lifetime construction.
- For Patio or Recreation Room.

Shipping Weight 29 lbs.

Perfect Partner for your Charcoal Broiler!

Send Check Today.

OLSON MFG. CO. ALBERT LEA 4, MINN.

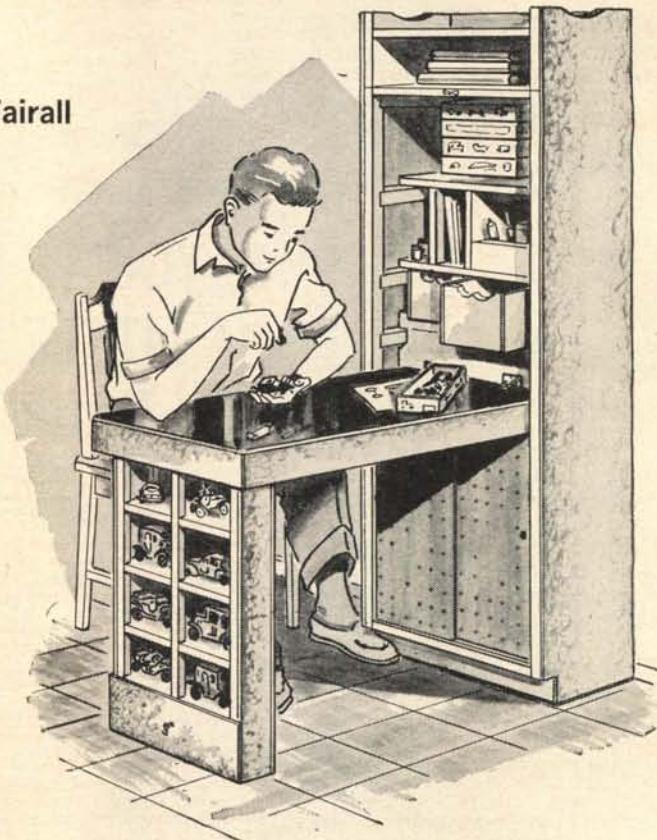
COPY ANY PICTURE with the AMAZING PANTOGRAPH

The ideal method of reproducing maps, pictures, diagrams, etc. Just place original design under the tracer point and simply trace it. Maps, truthfully accurate copies from 25% to 425% larger than original. Comes ready for use with special pencil.

Sent Postpaid, anywhere in U.S. for only \$1.00. Order today. No C.O.D.'s accepted.

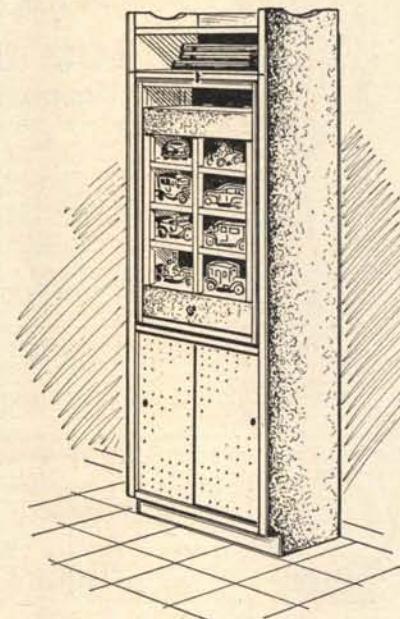
DAVID W. WOLF 116-12 101st Ave.
Jamaica 19, N.Y.

Roberta Fairall



Display-Work Cabinet

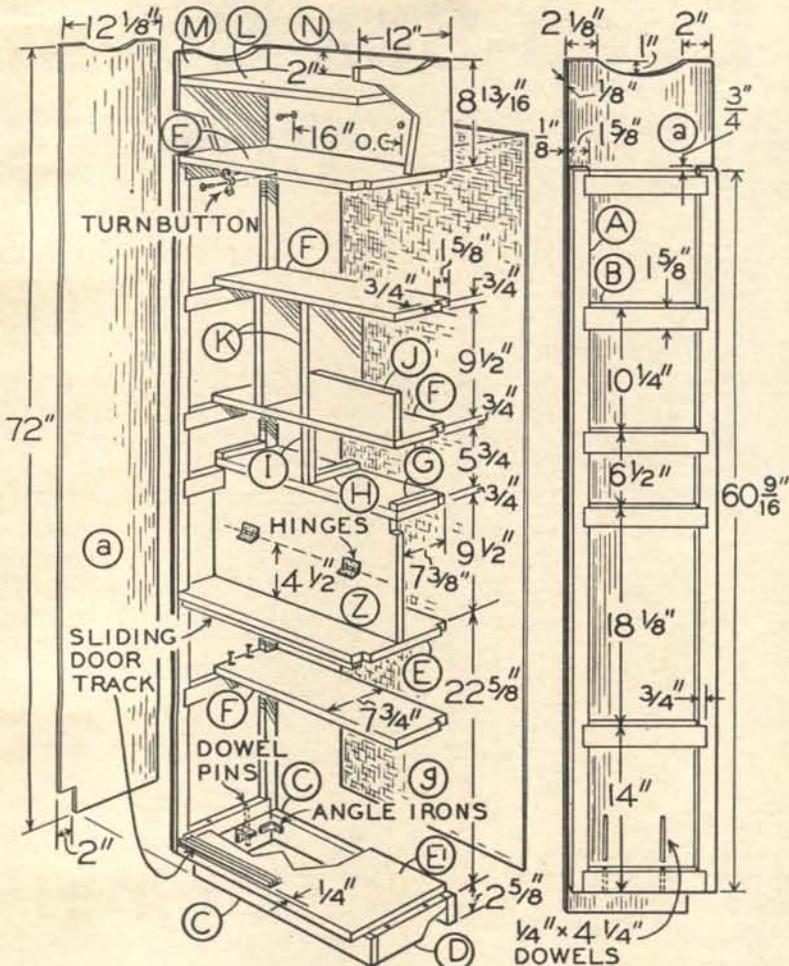
DESIGNED ORIGINALLY as a cabinet for the display, storage and work on plastic models, this unit adapts readily as a sewing center and for light craft and hobby work. Hardboard glued to 1 x 2 frames makes for lightweight assembly and construction is simple enough to be done with hand tools. The cabinet can be screwed to two wall studs, or may be partially recessed.



With the drop-leaf desk down, supplies and tools are at hand in compartments and shelves in the cabinet. Black tempered hardboard makes an attractive and durable work surface. When the desk is folded up, only the display compartments and upper shelf show. In regard to the models on display: Although the compartments do remain level when the desk is lowered and raised, items in the compartments should be fastened to prevent their being jolted out when the desk is in motion. If a turn button is objectionable, use a strip of wood and a dowel as a combination shelf lip and locking device.

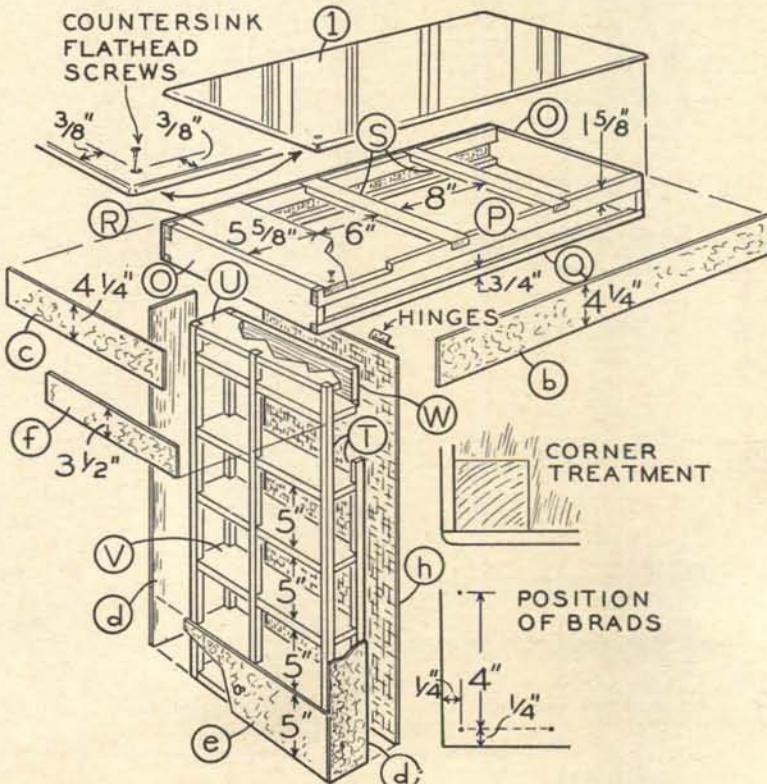
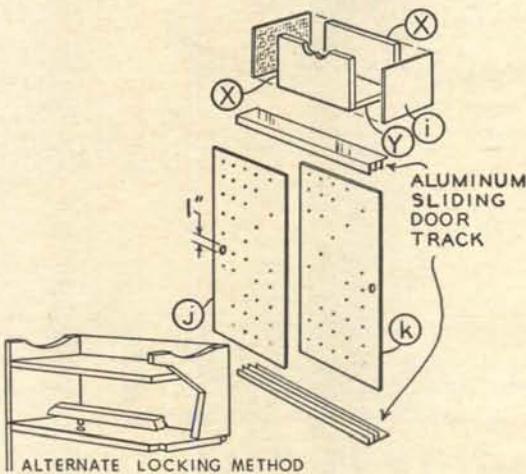
MATERIALS LIST

- 1" Solid Stock
- A, Side-frame stiles, 1 $\frac{5}{8}$ " x 60-9/16", 4 req'd.
- B, Side-frame rails, 1 $\frac{5}{8}$ " x 10 $\frac{1}{4}$ ", 12 req'd.
- C, Base boards, 2 $\frac{5}{8}$ " x 23", 2 req'd.
- D, Ledgers, 2 $\frac{5}{8}$ " x 8 $\frac{1}{2}$ ", 2 req'd.
- E, Top, center shelf (glue up), 12" x 23", 1 req'd.
- E', Bottom shelf (glue up), 12" x 21 $\frac{1}{2}$ ", 1 req'd.
- F, Narrow shelves, 7 $\frac{3}{8}$ " x 23", 4 req'd.
- G, Drawer-shelf side cleats, 3/4" x 5 $\frac{3}{4}$ ", 2 req'd.



H, Center cleat for drawer shelf,
 $\frac{3}{4}$ " x $6\frac{5}{8}$ ", 1 req'd.
I, Divider, $\frac{3}{4}$ " x $5\frac{3}{4}$ ", 1 req'd.
J, Shelf facia, $3\frac{5}{8}$ " x $11\frac{1}{8}$ ", 1 req'd.
K, Partitions, $7\frac{3}{8}$ " x $9\frac{1}{2}$ ", 2 req'd.
L, Upper shelf, $11\frac{1}{4}$ " x $21\frac{1}{2}$ ", 1
req'd.
M, Sides, upper unit, $8\frac{13}{16}$ " x 12",
2 req'd.
N, Back, upper unit, $8\frac{13}{16}$ " x
 $21\frac{1}{2}$ ", 1 req'd.
O, Desk ends, $4\frac{1}{4}$ " x $21\frac{1}{8}$ ", 2 req'd.
P, Upper desk rails, $1\frac{5}{8}$ " x $33\frac{7}{8}$ ",
2 req'd.
Q, Lower desk rails, $\frac{3}{4}$ " x $33\frac{7}{8}$ ", 2
req'd.
R, Front stretcher, desk top, $5\frac{5}{8}$ "
x $21\frac{1}{8}$ ", 1 req'd.
S, Middle stretchers, desk top, $1\frac{5}{8}$ "
x $21\frac{1}{8}$ ", 2 req'd.
T, Stiles, desk leg, $\frac{3}{4}$ " x $28\frac{3}{4}$ ", 5
req'd.
U, Leg top, $2\frac{1}{2}$ " x $19\frac{1}{4}$ ", 1 req'd.
V, Shelves, $3\frac{1}{4}$ " x $19\frac{1}{4}$ ", 6 req'd.
W, Back board, $2\frac{3}{4}$ " x $17\frac{3}{4}$ ", 1
req'd.
X, Drawer fronts and backs, $5\frac{5}{8}$ "
x 10", 4 req'd.
Y, Drawer bottoms, $5\frac{7}{8}$ " x 10", 2
req'd.
Z, Hinge partition, $9\frac{1}{2}$ " x 23", 1
req'd.
Hardboard, $\frac{1}{8}$ ", Leather-Textured
a, Cabinet sides, $12\frac{1}{8}$ " x 72", 2
req'd.

- b, Sides of desk top, $4\frac{1}{4}$ " x $33\frac{7}{8}$ ", 2 req'd.
- c, End of desk top, $4\frac{1}{4}$ " x $21\frac{1}{8}$ ", 1 req'd.
- d, Sides of desk leg, $3\frac{1}{4}$ " x $28\frac{3}{4}$ ", 2 req'd.
- e, Bottom front of desk leg, 5" x $19\frac{1}{2}$ ", 1 req'd.
- f, Top front of desk leg, $3\frac{1}{2}$ " x $19\frac{1}{2}$ ", 1 req'd.
- Hardboard, $\frac{1}{8}$ ", Untempered, Smooth
- g, Cabinet backing, 23" x $66\frac{1}{2}$ ", 1 req'd.
- h, Leg backing, $19\frac{1}{2}$ " x $28\frac{3}{4}$ ", 1 req'd.
- i, Drawer sides, $5\frac{5}{8}$ " x $7\frac{3}{8}$ ", 4 req'd.
- Perforated Hardboard, $\frac{1}{4}$ "
- j, k, Cabinet doors, $11\frac{1}{8}$ " x $20\frac{7}{8}$ "
- Black Tempered Hardboard, $\frac{1}{4}$ "
- l, Desk top, $21\frac{3}{8}$ " x 34". △ △



DON'T PAY FOR THESE GREAT BOOTS



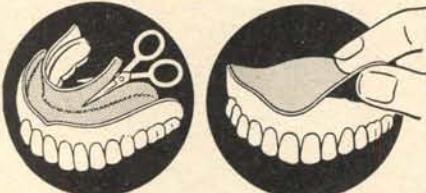
8"
Boot—
Quilted,
Air Cushioned,
Thermal-Insulated

GET THEM WITHOUT COST
AS A REWARD — PLUS THE CHANCE
TO "BE BOSS" OF YOUR OWN
\$10,000 A YEAR SHOE BUSINESS!

Brand new plan! You can earn
marvelous new boots instead of
paying for them . . . and
develop an extra income
for life! Sell friends new
Work, Dress, Casual
Shoes and Boots in spare
time. Amazing Vyllyt Sole
guaranteed the life of the
shoe or boot or replaced
FREE! Also earn Advance
Commissions up to \$10.00 a pair, plus big Bonus.

No experience. Samples supplied. Write for new
Selling Outfit—without obligation.

CHARLES CHESTER SHOE MFG. CO.
Dept. C-6352, Brockton, Mass.



TEETH STAY TIGHT for months with amazing new soft pink liner. Eases sore gums giving you lasting comfort — eat anything. Ends daily bother with stickums you swallow. Easy to use — pure — harmless — gentle — brushable — clean — removable. Fills out shrunken mouth making you look and feel younger. Holds dentures tighter longer or your money back. Save money and time—send \$1.00 for big sheet or ask for information. Plasti-cushion, WO-33 85, Elyria, Ohio.

STOP SUFFERING AND START LIVING!

WEB GUARANTEES IMMEDIATE, LASTING

RUPTURE RELIEF



OR YOUR MONEY
BACK IN FULL!

Enjoy a stronger, happier life. Wear a Web for strong support and lasting relief of reducible inguinal rupture. If not completely satisfied, return within 30 days for full refund of purchase price.

Write for FREE book on rupture care.
Dept. WB-3
Hagerstown, Md.

OLD LEG SORES



Are you miserable with pain and aches of leg ulcers, swelling, itching, rash due to venous congestion? Send for FREE BOOK and Full Refund Trial Plan on tested VISCOSSE home treatment.

W. N. VISCOSSE COMPANY
100 W. Chicago Ave. • Chicago 10, Ill.

CASTING SECRETS REVEALED!

Learn how to make big money casting plaques, bookends, figurines, etc., with X.L. rubber molds.

NO EXPERIENCE NEEDED

X.L. Rubber, Pkg. \$2.50; Qnt. \$4 (postage extra). Mold, and enough rubber for 3 molds, \$1.50 prepaid, U.S. only. Send 25¢ (refunded with order) for 40-page catalog describing this profit-making business!

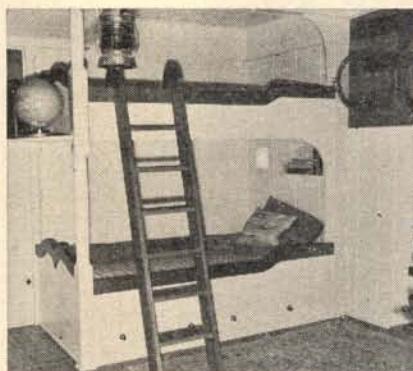
PLASTIC ARTS STUDIO 3403 S. MADISON, DEPT. 3
MUNCIE, INDIANA

Burial Insurance

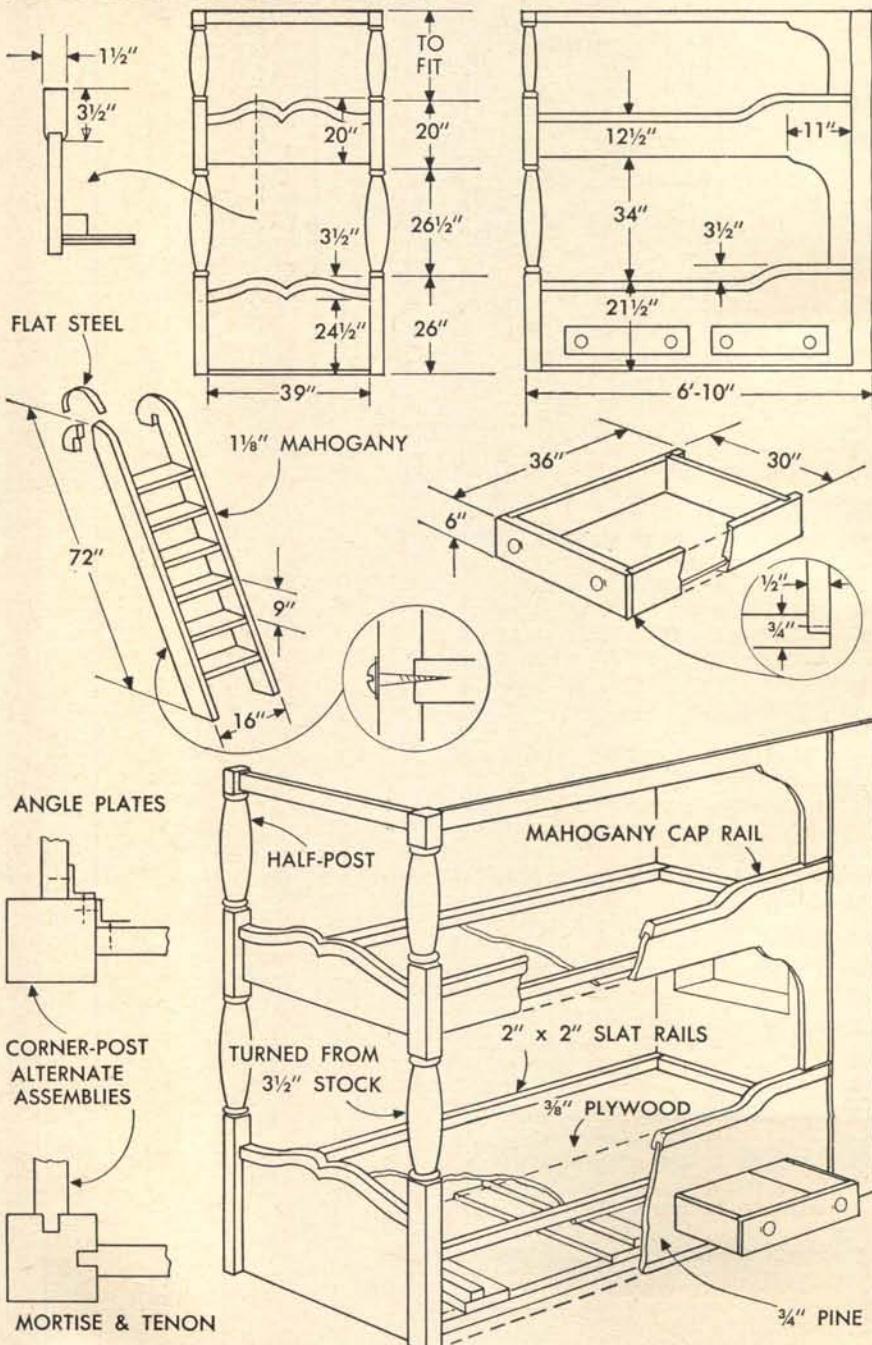
\$500 or \$1000 policy — to age 80. No Salesmen. No Examination. Money Back Guarantee. For FREE details write Crown Life of Illinois, 203 No. Wabash Ave., Chicago 1, Illinois, Dept. B99

Deep-Sea Boys' BUNKS

HI SIBLEY



Nautical bunks set theme for this "sea-going" room. Porthole and lamp can be purchased where marine supplies are sold.



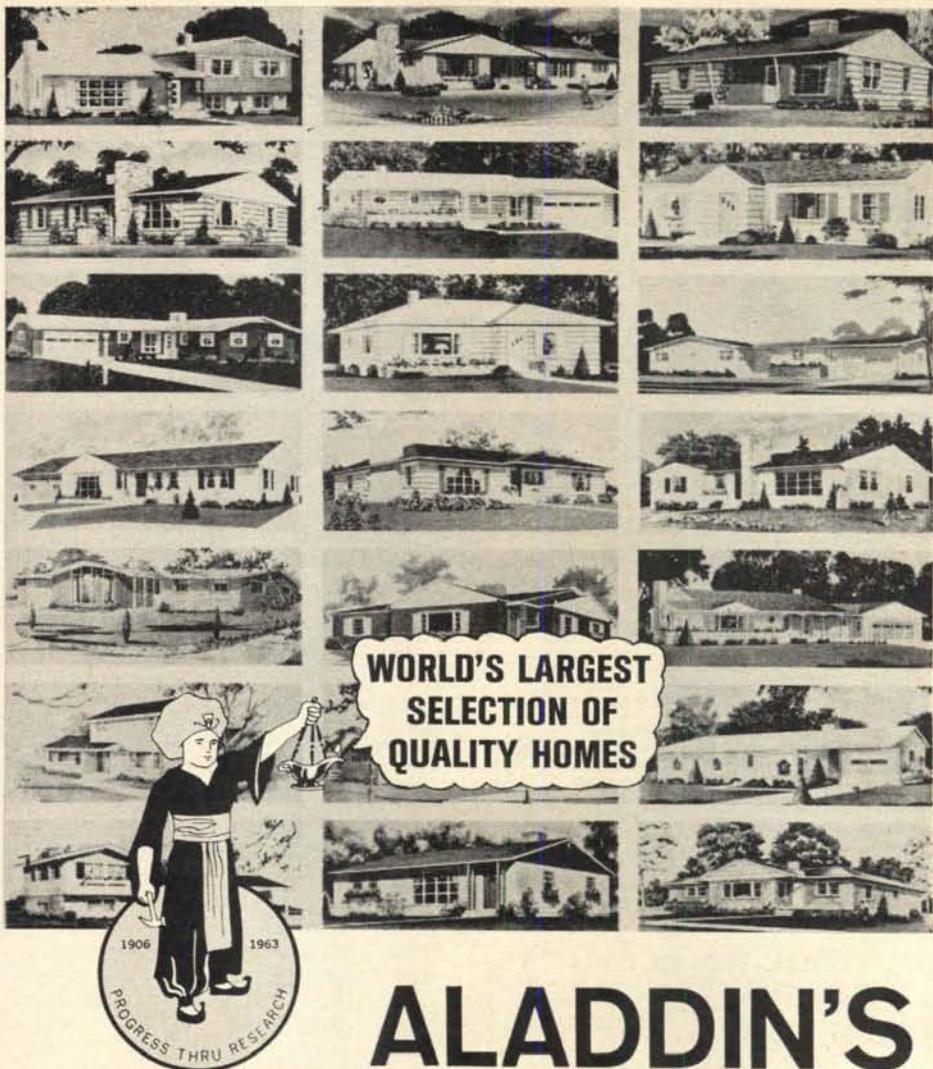
COMPLETE UTILIZATION of every square foot of space is necessary when a bedroom is small. These built-in bunk beds not only conserve space, but give the room a truly "aboard-ship" atmosphere. Two generous-size drawers beneath the lower bunk provide storage for bedding and other items, and a shelf at the end of the lower bunk holds a radio and books that otherwise would require room space.

Two lathe-turned posts are required at the end of the bunks; the one against the wall is split lengthwise to make a "half-post." Use stock 3½-in. square for the turnings. Ends and sides of the bunks are assembled from 1-in. pine, (¾ in. net), with cap rails of mahogany. The rails are grooved so they fit over the end and side members of the bunks. Slat rails cut from 2 x 2 stock are glued and screwed to the inner faces of the end and side members of the bunks to provide support for single-bed box springs and mattresses. To prevent dust and debris from dropping on the lower bunk from the upper, and from the lower bunk into the drawers, a piece of ⅜-in. plywood is secured to the lower edges of the slat rails.

The drawers are of conventional construction, and the fronts can be overlapping, as in the photo, or flush, as in the drawing. Mahogany pulls are used to match the caps. Note that the shelf at the head of the lower bunk also includes flush-mounted light with frosted glass. This setup can be duplicated in the upper bunk if space allows.

Ladder treads are mortised into the side members, and a length of flat steel holds together the hook pieces at the top. The ladder assembly is of mahogany stock, but also can be pine. Paint the bunks white, or a light color, to contrast with the dark tone of the mahogany cap rails and the ladder.

To give the room a more completely nautical decor, shop at a marine-supply store or ships' chandler for lights, portholes and other accessories. △ △



**WORLD'S LARGEST
SELECTION OF
QUALITY HOMES**

ALADDIN'S NEW 1963 book of homes DESIGNED TO SAVE YOU UP TO \$5000



PRICED FROM \$3000 FREIGHT PAID

Aladdin . . . world's oldest and largest manufacturer of Readi-Cut homes . . . shows you how to save up to \$5000 . . . how to save material, time, labor and middleman profit . . . Aladdin Homes are sold on money-back guarantee — your complete assurance of a quality home.

NEW CONSTRUCTION SYSTEM

Aladdin's new B-I-Y System combines the basic principles of their famed Readi-Cut Home with the most advantageous techniques of custom-built, component and pre-assembled construction methods that now makes it easier than ever to build your own home . . . gives you the best possible home for the least possible money.

In The Next Issue . . .

- Your Own Swimming Pool
- Buying A Home
- Ladder-Back Chair
- Girders of Plywood
- "Twisted" Pedestals

**THE ALADDIN COMPANY, 63-43
BAY CITY, MICHIGAN**

Please send 1963 "BOOK OF HOMES" in beautiful color with complete information about the new Aladdin B-I-Y Home-Building System. Enclosed is 25¢.

NAME

ADDRESS

CITY

ZONE .. STATE ..

(Please Print Carefully)

FIX BROKEN DENTURES AT HOME IN MINUTES



Amazing new QUIK-FIX Denture Repair Kit easily mends broken plates; fills in cracks; replaces teeth like new. Fast! Easy to use! No special tools needed. No costly dental bills. Directions enclosed. Works every time or your money back. Send \$1.98, enough for many repairs. QUIK-FIX Company, Dept. Q-10, 1075 Main St., Buffalo 9, N.Y.

BUILD YOUR OWN CAMPER!

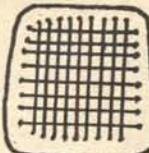
SAVE UP TO 50%

Complete plans, instructions and materials list. Fits any pick-up truck. \$750



8 or 10 ft.
14123-C Holly Rd.
HOPKINS, MINN.

VI-KING CAMPER CO.



CHAIR CANE

SAVE YOUR VALUABLE CHAIRS
Easy to do yourself. Genuine Strand Cane. Woven Cane Webbing for Chairs with Groove. Ash Splints. Flagg Bush Catalog Dime. Instructions 25c. Complete Seat Weaving Book, \$1.15. Raffia, Basket Reed, Basketry Book, 75c.

FOGARTY CANER, Dept. 3, Troy, N.Y.

90 PATTERNS LAWN ORNAMENTS-NOVELTIES



FULL SIZE patterns up to 20" high of Dutch Boy and Girl, Dwarf Penguin, Fishing Boys, Animals, Birds, Novelties and other popular items. Easy to make and sell. Just trace, cut out and paint. Send \$1.25 today for the LAWN ORNAMENT PACKET containing all 90 patterns.

MASTERCRAFT PLANS, Dept. 32B
7041 Olcott Avenue Chicago 31, Illinois

SMILING CLOWN



18" tall. Sew by hand or machine, and stuff. Gay plastic face and cut material supplied: silk, rayon and satin in different colors. No two dolls alike. Seats for \$1.98. Single Kit \$1.00. 3 For \$2.40

DOLL FACES only



Our beautiful plastic smiling clown faces now \$2.00 per dozen—less in 3 dozen lots—size 2½" x 3". Also available: sweetheart, cat, colored mammy, rabbit, monkey, panda bear and chicken faces at various prices. Folder with description and prices 10c. No C.O.D.'s. THRIFT MAILMART, Wantagh 75, N.Y.

If You Change Your Address:

1. Please give us 6 weeks advance notice.
2. Request a change of address card, Form 3578 from your mail carrier.
3. Address your notice to

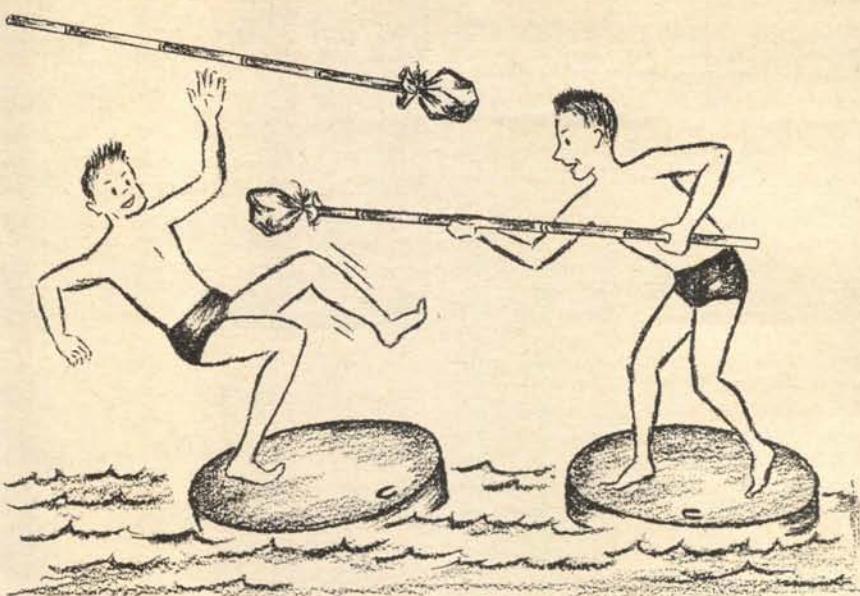
WORKBENCH

Circulation-Dept.

543 Westport Rd. Kansas City 11, Mo.



"All I Offered Was Advice."



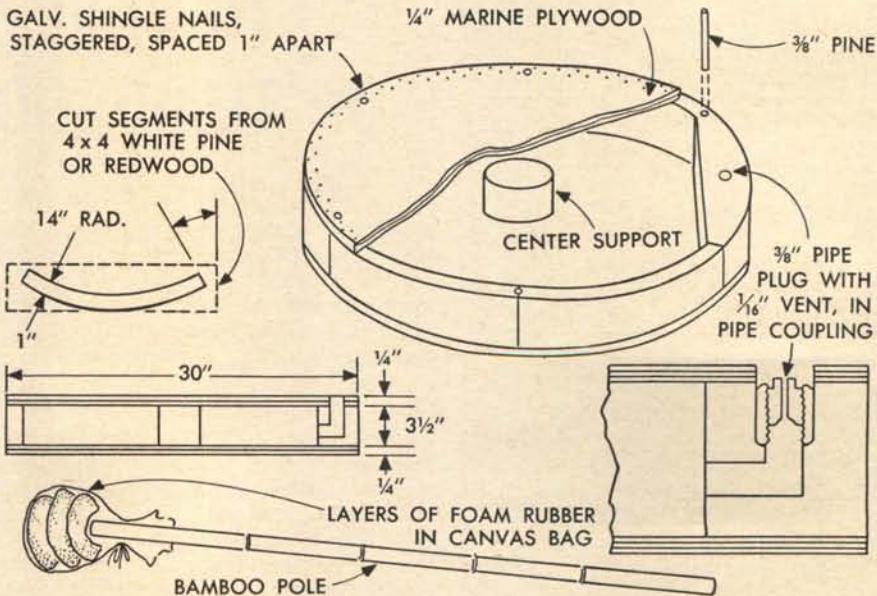
FUN WITH DIPSY-DOODLE

EVERYONE IN THE FAMILY can have fun with this buoyant disk, jousting, racing—or trying to race—with a pair of them.

Six segments are cut from white pine, redwood or other lightweight stock, assembled as indicated and sandwiched between two plywood disks. Use marine glue between all contacting surfaces, making sure that all joints are tightly fitted before the glue is applied. After nailing the disks to the rim, drill holes in the six joints and drive in soft-pine dowels. The dowels should be a snug fit, but should not fit so tightly that they force the joints apart. When these dowels become wet, they will swell and create a

watertight seal at the joints. Note that the dowels go through both the plywood disks.

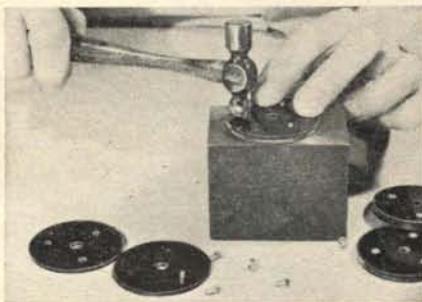
Because there will be a problem of expansion and contraction of air within the assembled disk when it is subjected to extremes of temperature, a vent should be fitted in the unit, as shown in the drawing. Besides providing a means of equalizing the pressure, the pipe plug in the vent can be removed should it become necessary to drain water from the disk. Before nailing on the disks, apply two coats of marine paint inside all parts. When dry, assemble the unit, then paint the outside, working the paint well into the exposed edges of plywood. △△



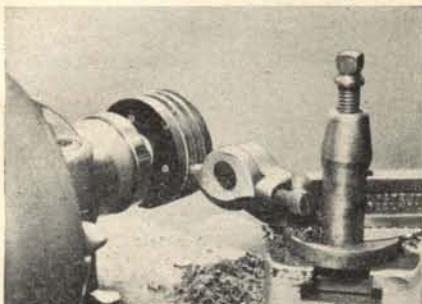
Shop-Made PULLEYS

WALTER E. BURTON

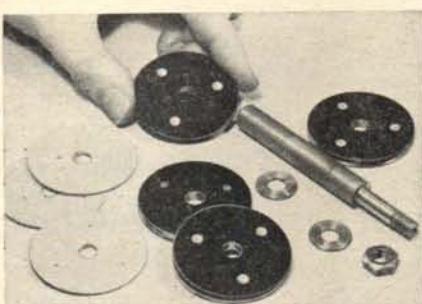
SMALL PULLEYS and wheels for shop projects can be made any thickness by riveting together disks cut from Bakelite, hardboard or plywood. The assembled "sandwiches" then are machined on a wood or metal-turning lathe. Use a steel rod for an arbor, threading it on one end for a nut. Cardboard disks between the Bakelite disks make it easier to see the separate edges, and to locate the centers when a pulley is to be machined. △△



Squares of resin or hardboard are center-drilled, cut into disks. Holes for rivets are drilled and countersunk.



Riveted pairs of disks are separated on arbor with disks of cardboard, then machined into pulleys or wheels.



Cardboard disks separate disk "sandwiches" so they can be center-grooved more easily, washers on arbor prevent damage from nut.

NURSERY STOCK SALE ORDER BY MAIL

WE HAVE OVER 100 VARIETIES TO CHOOSE FROM
Planting Instructions included in each order • Every plant labeled

FLOWERING SHRUBS

Crape Myrtle—Red, Purple, or White, 1 to 2 ft.	\$.49 ea.
Weigela—Red, Yellow, or Pink, 1 to 2 ft.	.19 ea.
Spiraea Van Houttei—White, 1 to 2 ft.	.19 ea.
Althea—Red, Purple, or White, 1 to 2 ft.	.15 ea.
Deutzia—White, 1 to 2 ft.	.15 ea.
Forsythia—Yellow, 1 to 2 ft.	.15 ea.
Pink Spirea, 1 to 2 ft.	.15 ea.
Pink Flowering Almond, 1 to 2 ft.	.15 ea.
Tamara Pink Flowers, 1 to 2 ft.	.15 ea.
Bush Honeyuckles—Red or Pink, 1 to 2 ft.	.29 ea.
Red Flowering Quince, 1 to 2 ft.	.29 ea.
Persian Lilac, 1 to 2 ft.	.49 ea.
Old Fashion Lilac, 1 to 2 ft.	.39 ea.
Bridal Wreath Spirea, 1 to 2 ft.	.29 ea.
Hydrangea P. G., 1 to 2 ft.	.15 ea.
Mockorange, 1 to 2 ft.	.15 ea.
Sweet Shrub, 1 to 2 ft.	.09 ea.
Rose of Sharon—Mixed Colors, 1 to 2 ft.	.15 ea.
Red Ozier Dogwood, 1 to 2 ft.	.15 ea.
Pussy Willow, 1 to 2 ft.	.15 ea.
Hibiscus Mallow Marvel.	.09 ea.
Russian Olive, 1 to 2 ft.	.15 ea.
Red Barberry, 1 to 2 ft.	.15 ea.
Japanese Snowball, 1 to 2 ft.	.15 ea.
Snowberry—Red or White, 1 to 2 ft.	.15 ea.
Spiraea Anthony Waterer Dwarf—Red, ½ to 1 ft.	.39 ea.
French Lilac—Red, White, or Purple, 1 to 2 ft.	.98 ea.

FLOWERING TREES

Magnolia Grandiflora, 1 to 2 ft.	.65 ea.
Mimosa—Pink, 3 to 4 ft.	.35 ea.
American Red Bud, 2 to 3 ft.	.25 ea.
White Flowering Dogwood Collected, 2 to 3 ft.	.29 ea.
Pink Flowering Dogwood, 2 ft.	.139 ea.
Golden Chain Tree, 1 to 2 ft.	.69 ea.
Smoke Tree, 1 to 2 ft.	.49 ea.
Purple Leaf Plum, 2 ft.	.39 ea.
Flowering Peach—Red or White, 2 ft.	.39 ea.
Flowering Crab—Red or Pink, 2 to 3 ft.	.50 ea.
Golden Rain Tree, 1 to 2 ft.	.39 ea.
Chinese Red Beech, 1 to 2 ft.	.69 ea.
European Bird Cherry, 1 to 2 ft.	.49 ea.
Double Pink Flowering Cherry, 2½ to 3 ft.	.98 ea.

SHADE TREES

Silver Maple, 3 to 4 ft.	.19 ea.
Weeping Willow, 3 to 3 ft.	.25 ea.
Chinese Elm, 3 to 4 ft.	.25 ea.
Catappa Fish Bait Tree, 2 to 3 ft.	.49 ea.
Ginko Tree, 1 to 2 ft.	.49 ea.
Pin Oak, Red Oak, or Scarlet Oak, 2 to 3 ft.	.69 ea.

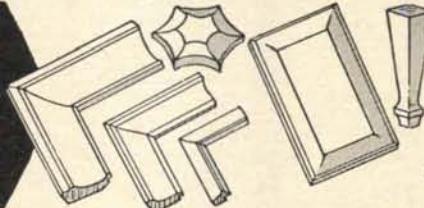
Our plants are Nursery grown from cuttings, seeds, or budded stock unless otherwise stated. These have never been transplanted. Inspected by Tennessee Dept. of Agriculture. This gives you a chance to buy at low grower prices.

SATISFACTION GUARANTEED ON ARRIVAL OR WE WILL EITHER REPLACE OR REFUND YOUR MONEY. You may order as many or as few plants as you wish. Orders in the amount of \$4.00 or more postpaid. Orders under \$4 send .40 cents extra with order for postage and packing. **NOTICE FREE—Orders in the amount of \$3 or more you get 4 flowering shrubs FREE, our choice.** SEND YOUR ORDER NOW. TELL US WHEN YOU WANT SHIPMENT.

SAVAGE FARM NURSERY, P. O. Box 125

125-R McMINNVILLE, TENNESSEE

MAKE
THESE
ON YOUR
DRILL
PRESS



**WAGNER
SAFE-T-PLANER**

**ABSOLUTELY
SAFE!**

IMPOSSIBLE TO GRAB OR KICK BACK!

Save time, save money . . . make picture frames, drawer fronts, panels, tapered legs, rosettes, in hundreds of variations! Use on any ½" capacity drill press, multi-purpose workshop machine or radial-arm saw. Planes parallel with micrometer precision, satin smooth surface, no extra cutters to buy. Complete unit includes planer, 3 lifetime high speed cutters, grinding wheel, arbor, wrench and instructions. Thousands in use! Money back guarantee.

Write for FREE Detailed Literature

GILMORE PATTERN WORKS • 1164-D No. Utica • Tulsa 10, Okla.

101 PATTERNS

This wonderful packet contains 101 FULL SIZE patterns (up to 23" high) of the smartest Lawn Figures, Bird Houses, Shelves, Action Figures, Pinups, Action Books, Gifts and Novelties you have ever seen! Just trace and saw out. You also get "Make Money Jig Saw," SPECIAL OFFER only \$1.00 for this big packet and free catalog.

MASTERCRAFT PLANS, Dept. 35B
7041 Olcott Avenue Chicago 31, Illinois

FREE CATALOG

Tells all about these wonderfully HANDY, HANDSOME CARTS which ladies as well as men like so much. SO MANY WAYS BETTER than a WHEELBARROW. SO MUCH EASIER TO USE. SO MANY MORE USES! Ideal gifts for anyone with a nice town or country home. Several models. Even "Build-It-Yourself" kits! Please write for FREE catalog. Vermont-Ware, Box 7303, Hinesburg, Vermont

Print Your Own
Cards, Stationery, Advertising, labels, circulars, churchwork, tags, titles, etc. Raised printing like engraving, too. Save money. **Print for Others. Good Profit.** Have a homeprint shop. Sold direct from factory only. Junior press \$15; Senior \$25 up. Easy rules sent. We supply everything. Write now for free details.
KELSEY PRESSES, X-95, Meriden, Conn.



**VARNISH MANUFACTURER Offers
WONDERFUL HOW-TO BOOKLET**

Full color booklet written by expert — crammed with step-by-step facts on how to finish woodwork, boats, antiques, floors, exterior siding, etc. Worth weight in gold to save time, labor and money. Shows how to do top notch work! Ask for "The Finishing Touch". Sent postpaid for handling charge of 25¢. Send coin today. **Dept. W. McCLOSKEY VARNISH CO.** 7600 State Road, Philadelphia 36, Penna.

WORKBENCH CLASSIFIED

The charge for classified advertisements is 90 cents a word payable in advance by check, cash or money order. All classified set solid, without display, leaded, or blank space. All copy subject to publisher's approval. For clarity, please type or print your copy. Be sure that check, currency or money order accompanies copy. When figuring the number of words be sure to include name and address. For example: W. C. Jones, is three words. Send your copy in at once. Closing date for classified advertising is the first of the second month preceding publication. Minimum 10 words.

AGENTS AND SALESMEN

FREE SAMPLE, Beautiful Curios! Sell on Sight! Apartado 9036, Mexico City.

IF YOU'RE interested in making money in selling see the hundreds of exceptional opportunities in Salesmen's Opportunity Magazine. Send name for your copy, absolutely free. Tell us what you're selling now, Opportunity, 848 N. Dearborn, Dept. 29, Chicago 10, Ill.

\$8.00 UP HOURLY for route work. Permanent. Write McNess, Freeport 44, Ill.

SENSATIONAL NEW longer-burning Light Bulb. Amazing Free Replacement Guarantee—never again buy light bulbs. No competition. Multi-million dollar market yours alone. Make small fortune even spare time. Incredibly quick sales. Free sales kit. Merlite (Bulb Div.), 114 E. 32nd, Dept. C-74D, New York 16.

EASY TO MAKE Big Money Showing Beaver Shoes to friends, relatives. Look like leather, wear far longer. Made of Everon, retail \$2.29 to \$5.59. Big commissions advanced. Beaver Shoes, Dept. WB-363, Beaver Meadows, Pa.

BUSINESS OPPORTUNITIES

MONEYMAKING OPPORTUNITIES Galore! Free Copy, Popular Mechanics Classified, 740-CM Rush St., Chicago 11.

PLASTERCRAFT MOLDS, liquid rubber plasters, flocks, candle supplies. Catalog and manual free. Blue Rapids Supply, 505 Main, Blue Rapids, Kans.

LEARN FLOWER Designing (Professional Flower Arranging) Florists pay qualified designers up to \$150.00 week. Or start home business part or full time. Earn while learning. Free—full details and 3 month subscription to "Flower Talk" magazine. Floristry, 3570 W. First Street, Los Angeles 4.

I MADE \$40,000 Year by Mailorder! Helped others make money! Start with \$10.00—Free Proof. Torrey, Box 3566-E, Oklahoma City 6, Okla.

\$250.00 WEEK SPARE Time profit possible. Earn at home with new fascinating printing method. \$5 starts—you send no money now. Free confidential Facts and Valuable Sample. Screen Print, Dept JV3, Los Angeles 61.

\$15.00 AN HOUR possible in new Home Manufacturing Business. Spare or full time. Amazing velvet-spray transforms hundreds of old items into \$\$\$\$ products. Write for samples, free "50 Business Opportunities Booklet," Craft Industries, Dept JV3, Los Angeles 61.

TELEPHONE FOR \$\$\$\$\$ Spare Time! Home Business Information; revealing details about joining Nationwide Organization. Write: Telephone Contactors, Dept. V3, 1038 So. LaBrea, Los Angeles 19.

GROW ORCHIDS at Home. Fascinating—Profitable! We show how to provide special light, temperature, humidity to grow Beautiful Orchids at home. Complete details Free! Orchids, 1356 S. Flower, Dept. CSC, Los Angeles 15.

INVESTIGATE ACCIDENTS. Earn \$750 to \$1,000 monthly. Men urgently needed. Car furnished. Business expenses paid. No selling. No college education necessary. Pick own job location. Investigate full time. Or earn \$6.44 hour spare time. Write for Free Literature. No obligation. Universal, CWB-3, 6801 Hillcrest, Dallas 5, Texas.

MAKE FIGURINES: Cement Lawn Novelties. Molding Rubber. Extra Thick. Free Sample. W. Wooley, 1915-P North St., Peoria, Ill.

MEN'S NEW Overcoats and Suits \$5.00; 17 Jeweled Watches \$2.90; Transistor Radio Kits \$1.33. Details Free. Man, Box 183-B, Bloomfield, N. J.

BIG MONEY—Operate your own fix-it shop. Service all household appliances: irons, fans, refrigerators, automatic washer-dryers, etc. Do house wiring, commercial wiring. Rewind motors of all sizes. Sharpen mowers, skates, saws. Buy needed spare parts wholesale. Free book. Christy Trades School, A-2264, 3214 W. Lawrence, Chicago 25.

DOLLS! DOLLS! DOLLS! We teach you to make, repair, dress and sell. Study at home. Earn while learning. Free Booklet. Doll Hospital School, Studio WBC-33, 11826 San Vicente Blvd., Los Angeles 49, Calif.

BUY IT WHOLESALE

BARGAINS! Buy wholesale! Save Money! Free catalog! Norris, 273-W Merrick Road, Lynbrook, N. Y.

Candle Decorating Supplies

CANDLE MAKING, Decorating Supplies, tools, equipment, instruction. Also full line of cake decorating, candy making items. Largest selection. Lowest prices. Send 25¢ today for big new catalog, applied to first order. General Supplies, Dept. G-356, Fallbrook, Calif.

COINS

TRUNKFUL 25,000 Indian-Lincoln cents mixed (from the 1920's & older). Will pack "Grab-Bag" style. 400 mixed—\$25, sample bag of 20—\$2. Mrs. Fischer, Box 5490, Sherman Oaks 42, Calif.

CRAFTS, SUPPLIES

SKIL-CRAFTS New 62-63 Catalog. Largest and Finest selection of Leathercraft, Artist, Hobby-craft supplies in the world. Free Gift with first order. Send 50c. Refundable with first order. Skil-Crafts, Box 167-W, Joplin, Mo.

PAINT FIGURINES for pleasure, profit. New! Fast, easy, no firing. Details 10c. Helen's Rainbow Paints, 8311-R Pillsbury, Minneapolis 20, Minn.

EARTHWORMS

FREE LITERATURE. Make Big Money raising fishworms and crickets. Carter Farm-32, Plains, Ga.

MEN!—WOMEN! Make money raising bait for us at home. Free details. Red Wigglers, Warsaw 17, Ind.

EARN MONEY raising fishworms for us! Exciting details free! Oakhaven-27, Cedar Hill, Texas.

FLORIDA LAND BARGAIN

FLORIDA'S GREATEST homesite value. High, dry $\frac{1}{4}$ acre site, \$495. No money down, \$10 monthly. Free photos, write Dept. 670-7, Rainbow Park, Box 521, Ocala, Fla. (AD 62070-K-O)

GUNS

WOODCARVING, GUNSTOCKS. Miniature animals, figurines. Hermania Anslinger, 320 South Ralph, Spokane, Wash.

HOBBYCRAFT

HOBBYCRAFT Razor Blade Plane. Razor sharp for fine work. \$2. Russell, Box 37, Emmett, Mich.

HOME CRAFTSMEN

MAKE PLASTIC novelties for extra income. Low cost home training now available. Write for free booklet. Interstate Training Service, Dept. D-7, Portland 12, Oregon.

VIOLIN MAKING Supplies. Free catalog. Fred Artindale, 1243 Palm, San Luis Obispo, Calif.

SAVE: RAW picture frame moulding, all species, all styles. We will miter corners. Bauerle Cabinet Works Inc., Hammond, La.

CASH MARKETS for Handicrafts! Thru. "Trading Post Magazine" Copy, 25c. Thorne's, 525 Dewey, Jackson 18, Mich.

16 LAWN CHAIRS, 22 Tables, Benches, Trellises. Plans and necessary patterns. \$1.25. Mastercraft, 33B, 7041 Olcott, Chicago 31.

LAMPS—MAKE from bottles, jugs, vases. Oil lamps restored and electrified. All parts with prices and instructions shown in handbook. 50c—refunded first order. Gyro, 5208 N. W. 35th Ave., Miami 42, Fla.

NEW! ORIGINAL! Shop projects to make for children. Send \$1.00 for five designs. Merklin, Dept. 10-B, 2702 N. E. 105, Portland 20, Oregon.

WOODWORKERS HOME Workshop catalog 132 pages. Save on fine woods, hardware, power tools, 25c. Craftsman, 2719 S. Mary, Chicago 8, Ill.

LAWN CHAIRS, Ornaments, Bird Houses, Novelties, Shelves. 68 patterns. \$1.25. Mastercraft, 31B, 7041 Olcott, Chicago 31.

42 SHELF PATTERNS. Colonial, Modern, Antique designs. \$1.25. Mastercraft, 31B, 7041 Olcott, Chicago 31.

BEAUTIFUL GRAINED, air dried Catalpa lumber. Sample 25c. Mower-Mate Co., River-ton, Kans.

30 BIRD HOUSE and Feeder patterns. Martins, Wrens, etc. \$1.25. Mastercraft, 31B, 7041 Olcott, Chicago 31.

HOME MOVIES, COLOR SLIDES

8mm., 16mm., MOVIE SUBJECTS — silent, sound—new, used—2"x2" color slides—biggest selection anywhere! Free, each month, big 24-page newspaper-size catalog! Blackhawk Films, Davenport 21, Iowa.

INSTRUCTIONS

LEARN REALISTIC Oil Painting by correspondence. Amateur and advanced. Walker School of Art, Box 486, Montrose 8, Colo.

WRITERS WANTED for Magazines, Television, Newspapers, Motion Pictures. Easy to learn Home-Study Course shows you how to write and sell stories. Free!—Revealing Book. Lesson, Writers Magazine, and Aptitude Test. Write: Palmer Institute, 6087-V3 Sunset Highway, 28, Calif.

SIGN PAINTING by fascinating system. Straley, 410-W So. Western, Springfield, Ohio.

LEATHERCRAFT

FREE "Do-It-Yourself" Leathercraft Catalog. Tandy Leather Company, P.O. Box 791-S47, Fort Worth, Texas.

MISCELLANEOUS

YOU CAN Chalk Talk. 40 page Catalog, 10c. John Balda, Trick Cartoonist, Oshkosh, Wis.

SELF-THREADING DuPont Nylon nuts fit any screw! Can't rust, won't shake loose! Sample assortment 98c ppd. Venti-Kuff, W.B. St. Petersburg 33, Fla.

QUICK-JOHN for Septic Troubles, outdoor toilets. New, exclusive enzyme-bacterial formula digests solids, grease, paper, etc. Ends backups, odors, pumping, digging. Harmless to plumbing. Six treatments in handy flush packets. \$2.50 postpaid; 12, \$4.50. Money back guarantee! Ryter Co., Madelia 2, Minn.

LIKE SWEET Onions? 500 assorted sweet onion plants \$2.50 postpaid fresh from Texas Onion Plant Company, "Home of the Sweet Onion." Farmersville, Texas.

OF INTEREST TO WOMEN

EARN MONEY at home, sewing aprons for merchants. We supply materials! Write: Jiffy Aprons, Fort Walton Beach 14, Fla.

100 DISPOSABLE polyethylene gloves \$2.95 postpaid, state size. NBARS, 9325-B Menard, Oaklawn, Ill.

\$100 WEEKLY possible. Compile mailing lists and address envelopes for advertisers. Home-spare time. Particulars free. National Service, 81, Knickerbocker Station, New York City.

EARN up to \$2.00 hour sewing babywear! Free Details. Cuties, Warsaw 4, Ind.

CANDLEMAKING & DECORATING. Terrific Hobby. Great Business: Learn Fascinating molding, dipping, creating & decorating candles for year-round demand—holidays, birthdays, weddings, anniversaries. All Events. Spare time fun & extra income now; expand to colorful candle shop later. No age limit. Write for free facts on home instruction method. Candle Institute, Dept. X-955, Fallbrook, Calif.

EARN \$50.00 Fast, sewing aprons. Details free. Redikut's, Loganville 62, Wisc.

MAKE \$25-\$50 week clipping newspaper items for publishers. Some clippings worth \$5.00 each. Particulars free. National, 81, Knickerbocker Station, New York City.

OLD GOLD & JEWELRY WANTED

CASH IMMEDIATELY For Old Gold—Jewelry, Gold Teeth, Watches, Diamonds, Silverware, Spectacles. Free Information. Rose Industries, Heyworth Building, Chicago 2.

PATENTS, INVENTIONS

INVENTORS—DO you want to sell or license your inventions on cash or royalty basis? Write Kessler Corporation, C-193, Fremont, Ohio.

PLASTICS

NEW LIQUID Casting Plastic, clear, colors. Embed real flowers, butterflies, photos, coins. Send 25c for two handbooks, "How to Cast Liquid Plastics" and "How to Make Extra Money at Home". Castolite, Dept. D-109, Woodstock, Ill.

EMBEDDING, CASTING secrets free. Sample, 25c. Crystal, 4350-G N. Whipple, Chicago 18.

SHELLCRAFT

SEASHELLS, SHELLCRAFT and Jewelry Supplies. Illustrated Catalog 25c, refunded on first order. Florida Supply House, Box 847H, Bradenton, Fla. Our 29th year.

SHELLCRAFT, fascinating hobby or profitable home business. Make and Sell wall plaques, lamps, ash trays, candy dishes, costume jewelry, handbag decorations. Write for most complete Shellcraft Instruction Manual ever published. Send \$1.00 (refunded first order shellcraft supplies.) Plasticraft, Dept. SW, 624 N. W. 8th Avenue, Fort Lauderdale, Florida.

STAMPS

100 OLD U. S. stamps between 1861 and 1935 only \$1.00. Roush Stamp Co., 51 Chestnut, Mansfield, Ohio.

FREE! Giant Bargain Catalog—New Edition listing thousands of bargains including U. S. and B.N.A. stamps, packets, mixtures, albums accessories and supplies: sent with beautiful approvals. Jamestown Stamp, Dept. E23WH, Jamestown, N. Y.

225 STAMPS only 10c with approvals. Mystic, Camden 22, New York.

FREE—50 Different Stamps, with approvals. Fahsing, Dept. W, Atascadero, Calif.

SMASHING COLLECTION Free—Includes Triangles, Early United States, Rockets, Sports, British Colonies, High Value Pictorials, etc. Complete collection plus big illustrated Magazine, all free. Send 10c for postage. Gray Stamp Co., Dept. PH, Toronto, Canada.

WOW! 110 All Different Germany 10c. Zeppelins, Semi-Postals, Airmails, High values, etc. Giant Catalog, bargain lists included with beautiful approvals. Jamestown Stamp, Dept. A13WH, Jamestown, N. Y.

U. S. STAMPS. Giant Bargain Catalog—25c. Ravmax, 35-VPH Maidenlane, NYC 38.

U. S. GOVERNMENT SURPLUS

GOVERNMENT SURPLUS direct from Government. Jeeps \$264.00, Radios \$2.53, typical prices. Guns, Typewriters, Cameras, Tools, thousands more. Amazing low prices. How, where to purchase, merchandise available, etc., only \$1.00 to: Surplus, P.O. Box 50512, Dept. WMH, New Orleans 50, La.

WILL FORMS

TWO "WILL" FORMS and "Booklet on Wills," \$1.00. National, Box 48313WB, Los Angeles 48, Calif.

WOODWORKING

MAKE \$46 From Square Foot Plywood; Jigsaw necessary. Free Information. Woodarts C-7, Bridgewater, Mass.

\$200.00 MONTHLY. Spare Time. With Tablesaw, Bandsaw or Jigsaw. Write: Holiday House, D3800 Harney, Vancouver, Washington.



TALENT APPRAISAL FREE!

Do you make little sketches and "doodles" like these? You may have art ability, just waiting to be recognized and developed!

Art is a highly paid, exciting profession today. Find out if you could plan on a career as a commercial artist. Get a professional estimate of your talent. No charge. No obligation.

Just mail this coupon for your Free Art Talent Test. It's already helped hundreds of other teenagers start on art careers!

ART INSTRUCTION SCHOOLS

Studio 2253

500 South 4th St. • Minneapolis 15, Minn.

Please send me your Talent Test without cost or obligation. (PLEASE PRINT)

Name _____

Occupation _____ Age _____

Address _____ Apt. _____

City _____ Zone _____

County _____ State _____



Accredited by the Accrediting Commission of the National Home Study Council.

MONEY in DONUTS



Bake new greaseless donuts in kitchen with small electric appliance. Grocers & cafes sell for you. Material costs 25¢ a dozen, pay you 50¢ a dozen. You profit 25¢ a dozen. Start in time serving 5 or 6 nearby stores.

Later do a full time business. A user who operates his appliance added other baked items to his line. Last year he did a gross business of \$61,000.

Send for FREE RECIPES. Bake this superior donut in oven and serve with coffee to some friends. Their comments will tell you this is way to make money.

A. RAY CO., 3605 S. 15th Ave., Minneapolis 7, Minn.

McGUFFEY'S READERS

After a long and costly search, reprints of the original 1879 revised editions of the famous McGuffey's Readers have been completed and you can now purchase exact copies at the following low prices POSTPAID:

1st Reader	\$2.50	4th Reader	\$3.50
2nd Reader	\$2.75	5th Reader	\$3.75
3rd Reader	\$3.25	6th Reader	\$4.25

OLD AUTHORS, Dept. WH-3, Rowan, Iowa

HOW TO PUBLISH

YOUR BOOK

Join our successful authors in a complete and reliable publishing program: publicity, advertising, handsome books. Speedy, efficient service. Send for FREE manuscript report & copy of Publish Your Book.

CARLTON PRESS Dept. WOD
84 Fifth Ave., New York 11, N. Y.

DARLING PET MONKEY

This live Squirrel Monkey makes an adorable, playful pet. Show it affection, and receive companionship & joy from its company. Almost human with its friendly eyes, children & adults love it as a pet. Approximately 6 months old, simple to take care of & train. Eats same food as you do, grows about 12 inches high. Free cage & instructions included. Live delivery guaranteed. Only \$19.95 express collect. Mail check or money order for \$19.95 to:
Animal Farm, Dept. 160, Box 1042,
Miami Beach 39, Fla.



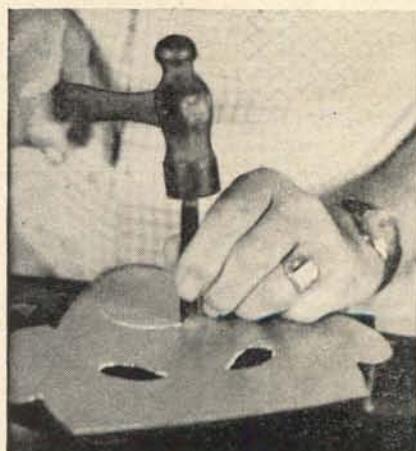
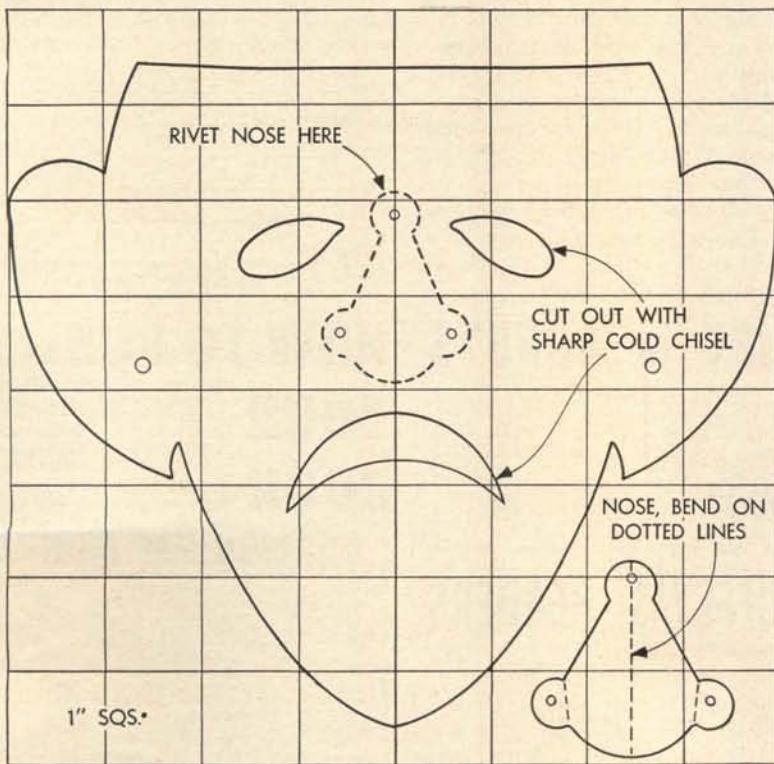
Completed masks are mounted on irregularly-shaped pieces of wood. Cord, knotted and combed to form tassel, is fitted in ears.



THEATRICAL AND PRIMITIVE masks are in constant popularity, as they are fine wall decorations for a den, recreation room or a living room with modern decor. In the past such masks have been made of papier-mâché or carved from wood. Both materials require considerable artistic skill for mask making. The masks shown in this article are cut from do-it-yourself sheet aluminum; a pair of tin snips, a cold chisel and hammer, plus ordinary

Theatrical Masks

DICK HUTCHINSON



Sharp cold chisel is best method for cutting out eyes and mouth. Smooth chiseled edges with file and emery cloth when cutting is complete.

Face of mask is rolled to a gentle curve, then nose is riveted on. Ears, as here, are rolled forward, opposite curve of face. If you have no slip roller, use any handy curved surface.

shop skills are all you need.

Make a pattern for the masks by enlarging the squared drawing. Trace the pattern onto the sheet aluminum, then cut the outline with snips. Place the metal on a block of wood and use a cold chisel and hammer to cut out the eyes and mouth. Changing the shapes and angles of the eyes and mouth will give your masks individuality. File and smooth the edges of the cutouts, then roll the face of the mask to a slight curve. If you do not have a slip roller, use any handy curved surface to shape the metal. Next, rivet on the nose. Finally, roll the ears of the mask opposite the curve of the face, so they curve forward. Polish the metal as necessary, then spray on a coat of clear lacquer to protect the shine. Mount the masks on irregular-shape pieces of wood, as shown. Silk or nylon cord is knotted and the cord below the knots is unraveled to form a tassel.

The masks are fine group projects and are readily saleable. △ △



NEWEST ADDITION TO THE WORKBENCH Model Shop is this handy vacuum cleaner. Accessories with the machine are a floor brush, (shown), dust brush, squeegee for wet pickup, crevice tool and a number of others that make cleaning the shop a breeze. We recommend a vacuum to every shop owner.

Free copies of a list of Accredited home-study schools and subjects offered may be obtained from: National Home Study Council, 1601 18th St. N. W., Washington 9, D. C.



LIMITED
OFFER

SAVE!

with No. 1 rated



SAVE \$64.50 ON

**FREE MAJOR ACCESSORY
OR
BIG TRADE-IN ALLOWANCE**

\$50
or
MORE

for Bench
Power
Tools!

\$25
or
MORE

for Portable
Power
Tools!

ONLY SHOPSIMITH and SAWSMITH have Variable Speed!

SHOPSIMITH—The only complete 5-in-1 home power shop. It's a saw, a lathe, sander, vertical and horizontal drill... all in one!

Only \$319.50

SAWSIMITH—World's most versatile radial arm shop with 6 important exclusive features! Does every major woodworking operation.

Only \$259.00

Ask for Demonstration NOW!



AMERICAN CORPORATION

Interstate 75—Evendale, Cincinnati 15, Ohio

ARCO ROTO-FORM



SHAPES
CUTS
FORMS
MILLS

Fits any electric drill, drill press. Saves hours of work shaping contours, removing paint, planing, sanding, beveling, model making. Cuts woods, metals, plastics, wallboard, etc. Quality-made in U.S.A. of hardened steel. Never clogs or needs sharpening. $\frac{1}{8}$ " diameter with $\frac{1}{2}$ " shank. Terrific Value. No. 1252. **ONLY \$1.98**
SAVE! Set of 3 Roto-Forms ($\frac{1}{2}$ " dia. drum above plus $\frac{3}{4}$ " & $\frac{1}{4}$ " dia. drums). No. 5500.....**\$3.95**

ARCO ROUTER-DRILL



SAWS • DRILLS • ROUTS • FILES
Fits any Electric Drill. Cuts own starting hole and any shape in any direction tool is moved. **ONLY \$1.39**
Cuts plywood, lumber, formica, non-ferrous metals, thin sheet steel. Sharp milled cutting edges for long life.

Order today on our 20-day Money Back Guarantee
Send check, M.O. — we pay post. (No COD's)

ARCO TOOLS, INC.
Dept. WB-3, 421 W. 203 St., N.Y. 34, N.Y.

MAKE MONEY at HOME FULL OR PART TIME!!

EXPERTLY DUPLICATE Turnings, Carvings, Etc.
right on your own lathe accurately & fast. All from easy to make templates or originals. Now available is our NEW off-the-lathe No. 4 CARVER MODEL shown here duplicating a valuable, manufactured item from the expensive ceramic ones. Send 25 cents in coin for literature. REFUNDABLE ON FIRST ORDER. Write TO-DAY!

TURN-O-CARVE TOOL, INC., Dept. W-962
P.O. Box 66, Santee, California

DRAINS cellars, cisterns, wash tubs; \$7.95 IRRIGATES - CIRCULATES - SPRAYS

Type P Pump has 1,000 uses. Stainless shaft. Won't rust or clog! Use 1/6 HP motor or larger... $\frac{3}{4}$ HP for up to 3000 GPH; 450 GPH 80° high or 1800 GPH from 22' deep. Inlet $\frac{3}{4}$ " outlet. Complete included free... **\$7.95**
Heavy Duty Ball-Bearing Pump. Up to 7,500 GPH. 1 1/4" inlet, 1" outlet... **\$12.95**
Postpaid if cash with order. Also other sizes, types.
MONEY BACK GUARANTEE
LABAWCO PUMPS, Belle Mead 42, New Jersey

PLASTIC CEMENT

ClearWeld permanently joins Plexiglas and most any plastics except polyethylene. Outperforms all others you have used or money back. Trial supply 50 cents.

CRAFT SERVICE
335 University Avenue, Rochester 7, New York

DONKEY FLOWER CART

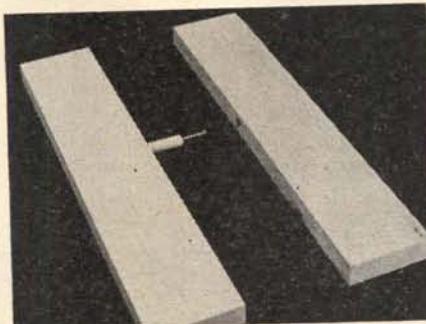
LARGE TOOL HOUSE • MARTIN HOUSE

Plans and patterns for making THE POPULAR DONKEY FLOWER CART, SWISS CHALET MARTIN HOUSE and 4x7x8 ft. TOOL HOUSE. All three easily made projects, complete with directions. Only \$1.25.

MASTERCRAFT PLANS, Dept. 321B
7041 Olcott Ave., Chicago 31, Illinois

SHOP TIPS

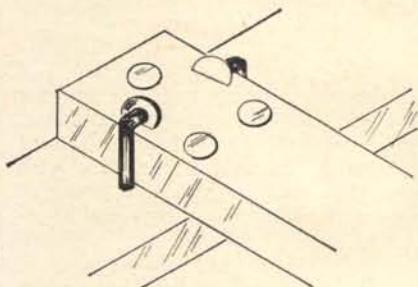
Dowel-Joint Tip



For maximum strength in an edge-to-edge dowel joint, try this idea: In each dowel start a box nail whose length is equal to the depth of the hole the dowel will enter. When the pieces are drawn together with a clamp, the nail will be forced into the dowel, swelling it to fill the hole completely.

DeCristoforo, Los Altos, Calif.

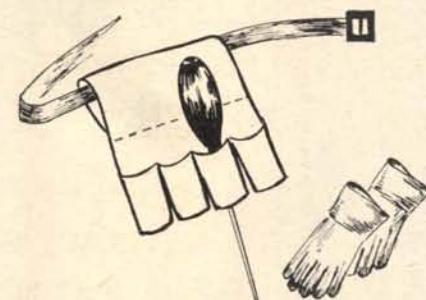
Prevent Nail Splitting



Next time you want to nail some laths or other light stock, eliminate the splitting problem by first driving a nail on each side of the stock as shown, and bending the nail head over. This will "clamp" the stock and prevent it from splitting when nails are driven into it.

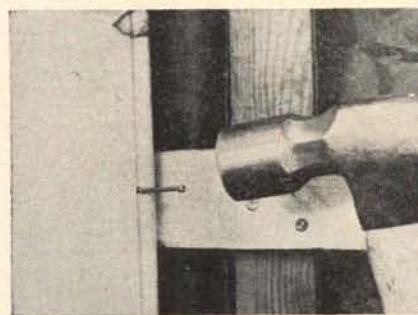
Daniel Bousha, Jackson, Mich.

Glove Is Tool Holder

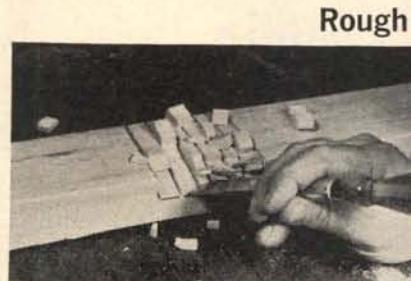


Next time you have a leather or canvas work glove that is to be discarded, extend its useful life by making a tool holster of it. Cut off the fingers and part of the cuff, as indicated, then fold the cuff over and sew it to make a belt loop.

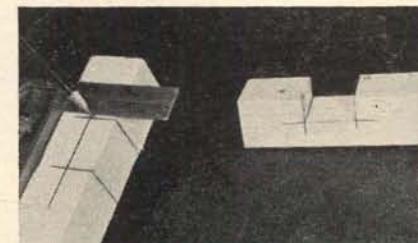
M. Robert Beasley, Detroit, Mich.



Crude face nailing too often mars the beauty of fine knotty-pine paneling. Avoid this by driving fine finishing nails through the tongue of the tongue-and-groove paneling into the furring strips. Use a nail-set to recess the head of each nail so it does not interfere with the fit between each tongue and groove.

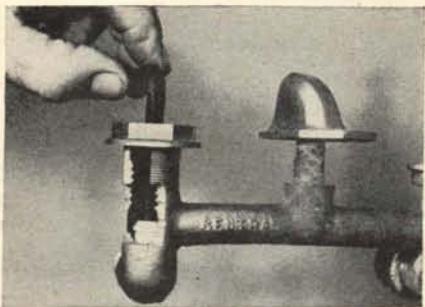


If you have no dado blade for your table or radial-arm saw and have to cut a mortise or make a half-lap joint in heavy stock, use a regular saw blade. Mark the mortise, then cut just inside the lines.



Now, pass the stock over the saw in a number of passes, moving it slightly sideways each time. (On a radial-arm saw the blade passes over the stock that is moved.) Finally, use a wood chisel as shown.

Dripping Faucet



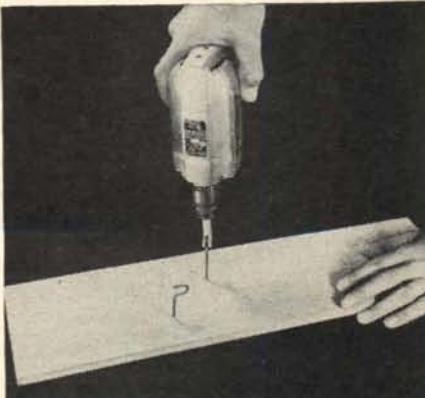
If a faucet continues to drip even after the washer has been replaced, chances are that the valve seat is damaged and the washer cannot make a watertight seal. In most quality faucets the seat is replaceable. The seat insert will be slotted to permit the use of a screw driver, or will have a square or hexagon-shape opening at the center. An Allen wrench or piece of square steel stock can be used to turn out the seat insert. The inserts are available at hardware stores where your brand of faucet is sold.

Better Sanding Block

Before using a scrap block of wood as a sanding block, rub the underside with a stick of belt dressing. This will cause the paper to stick to the block without slipping when under pressure.

M. Robert Beasley, Detroit, Mich.

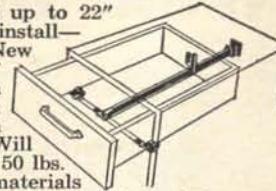
Mechanized Hook Driving



When you need to drive a number of cup hooks or screw eyes, use your drill motor for the job. Saw a slot in the end of an aluminum rod or hardwood dowel to fit over the hooks. Make a starting hole with an awl, drive with the motor.

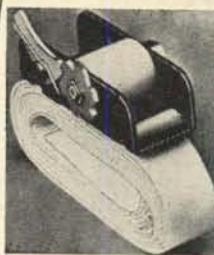
DRAWERS SLIDE EASIER-QUIETER with SINGLE-TRACK DRAWER SLIDE

For drawers up to 22" deep. Easy to install—In Old and New Drawers, $\frac{1}{8}$ " narrower than opening with 1" between each drawer. Will support up to 50 lbs. High quality materials—low cost to you. Can be cut to any length. Only 98¢ per set. BARGAIN One Dozen sets only \$9.89. Wt. 1 lb. per set. Satisfaction guaranteed. Prices F.O.B. Chicago. Send 10¢ for catalog of lamp parts, veneers, lazy Susan bearings, rocker springs, Swiss musical movements, Wood legs, Folding metal legs, etc.



BARAP SPECIALTIES

VENEERS We have: Veneers 1/28" Thick. To introduce you to our specialized line, we will send Two Square Feet each of Cherry, Mahogany, Walnut, Oak and Maple for only \$1.75 ppd. Many other species available, all listed in our Catalog.

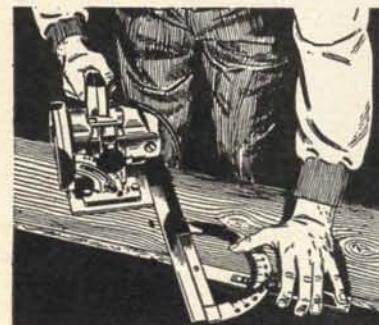


WEB CLAMPS

Indispensable for cabinet work, repairing furniture, etc. Ideal for holding work of any shape and almost any size. Equipped with 12 ft. of heavy 600 lb. break strength nylon webbing. Design prevents marring of work surfaces; eliminates padding. Ratchet action; pressure is obtained by tightening with 9/16" wrench; easy, quick release. Web Clamp — \$4.95 ppd.

DEPT. W-33, P.O. BOX 2044
CHICAGO 9, ILLINOIS

MAKES ANGLE SAWING EASY AND ACCURATE



Mark the cutting angle for hand saws too.

Write for our free catalog of fine tools.

ALL-STEEL PROTRACTOR AND SAW GUIDE
For use with portable Electric Circular and all types of Saber Saws, this handy carpenter's helper saves time, effort and money — prevents costly mistakes. Ruggedly constructed of heavy duty steel, the 18" steel guide bar permits foolproof sawing for both amateur and professional. A great help in laying out work, this protractor and saw guide is accurately calibrated to single degrees. Also equipped with easy wing-nut adjustment and screw-type pointer correction adjustment for positioning at any angle.

Order by mail. A real \$2.95 buy at \$2.95 ppd

Two \$5.75 for \$5.75 ppd

Satisfaction guaranteed or money back.

DRUMCLIFF COMPANY Dept. 755, Towson 4, Md.

all purpose

WELDIT®

It's crystal-clear cements anything to anything

Extra tough WELDIT permanently bonds wood, metal, glass, plastic, rubber, ceramics, china, anything, everything. No mixing—just 1 tube.

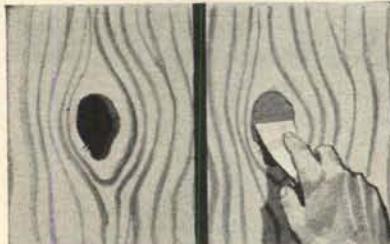
Stops Leaks Instantly—in gas tanks, oil water lines. Waterproof WELDIT never gets brittle, gets stronger with age.

at Woolworth, Grant, Kresge, Newberry, Lamston, McCrory, other Variety Stores (Hardware Counters), Super market, Hardware, Paint, Auto Stores.

Weldit Corp., 320 Fifth Ave., NYC 1.

ONLY **49¢**
Large Tube

ONLY ONE FILL



...for Deep Holes with

DURATITE®
PLASTIC • WATERPROOF
WOOD DOUGH

Best plastic wood filler you can buy. It saws, sands, drills, stains, paints.

DURATITE DIV. OF DAP INC., DEPT. 51, DAYTON, OHIO

MAKE-DECORATE Candles FOR FUN OR PROFIT!

Men, women, ANY age! Learn to create, design & decorate unusual candles for all occasions! FUN, fascinating hobby or spare time business. Expand to colorful candle shop, later. ENORMOUS DEMAND... friends, clubs, stores, churches, everyone will clamor for your original, unusual candle shapes, colors, types & scents. As little as 10¢ in material brings \$2 income! All ages delight in this easy-to-learn craft. No artistic ability required... We show you how. Send TODAY for FREE FACTS on home instruction method. CANDEL INSTITUTE, Dept. X-954, Fallbrook, Calif. CANADIANS ADDRESS: Dept. X-954, P.O. Box 1111, Montreal.

CUT METAL with YOUR BAND SAW!

In metal cutting position, PLANI-DRIVE CONVERTER increases cutting power of band saw 16 to 1! Fits $\frac{3}{4}$ " & $\frac{5}{8}$ " bushings. Comes with $\frac{1}{2}$ " & $\frac{5}{8}$ " bushings. Has hardened steel gears, ground steel shafts, oil-less bronze bearings.

\$40.00 FOB Factory

NELSON & JACOBSON, Inc., Dept. W
3546 N. Clark St. Chicago 13, Ill.

WRITERS

N. Y. publisher wants books on all subjects, fiction, non-fiction. No fee for professional opinion. FREE: Brochures that show how your book can be published, publicized, sold; tips and article reprints on writing, publishing, contracts. Write Dept. WB-3.

EXPOSITION 386 PARK AVE. S., N. Y. 16

FALSE TEETH BREAK? GOOD NEWS Now repair them \$1.98 at home in 8 min.

Amazing PLATE-WELD repairs clear and pink plates and replaces teeth. Simply flow on—put together. Works every time—holds like new or money back. At Drug Stores or send \$1.98 plus 22c handling to Home Dental Aids Co., Box 1731, Dept. 19-A, Bakersfield, Calif.

PLAY RIGHT AWAY!

Even If You Don't Know

a Note of Music Now

Now it's EASY to learn any instrument. No boring exercises. Learn playing pieces by notes right away. Amazing progress at home, in spare time. No teacher. Few cents per lesson. 1,000,000 students! Write for FREE BOOK U. S. School of Music, Student 193, Box 100, Washington, N. Y. (Est. 1898) Chartered N. Y. State Dept. of Education.

Build This Beautiful Grandfather Clock



Send only \$1.00 for complete plans and instructions plus catalog of clock movements, dials, case plans and kits for building Grandmother, Grandfather, Terry, Steele and other fine clocks.

Mason and Sullivan Co.
Dept. WB, Osterville, Mass.

NEED MORE MONEY?

Raise fishworms on Two-Way Profit System: Earn PARETIME CASH growing worms for us under GUARANTEED MARKET PLAN; or send for \$1.00 yearly selling locally and by mail to \$10,000,000 bait market! Exclusive FREE LITERATURE explains BOTH Systems—shows ACTUAL CHECKS earned by our growers, tells amazing success stories, reveals startling facts on booming market; includes Free Illustrated Raising Instructions—learn how men, women, elderly can raise 'em in backyard, garage, basement! WRITE, right now—that knock you hear is OPPORTUNITY!

Oakhaven Farms, Box 912, Cedar Hill, Texas

SMELLY BATHROOM-SMOKEY KITCHEN?

New 5x7 ELECTRIC ALL-PURPOSE HOME VENTILATOR USES new silent type pressure blower. Installs quickly, easily, in 4" stud wall space in ceiling, floor, side walls of new or old houses. For bathrooms, damp basements, hot attics, stuffy halls, exhausts up to 100 CFM! Filters, no draft vents, exhaust pipe extensions, choice of grilles available. WRITE DIRECT FOR PRICE INFORMATION.

GENERAL PRODUCTS CO., Dept. VW-4, Kearney, Nebr.

Learn PACKAGING!

Make to 2500% Profits at Home. WITHOUT SELLING! Package products at home for nation-wide sales force. You package bulk items in your own home. Salesmen DO your selling coast-to-coast. FREE "No Selling Plan" reveals thousands full, spare time big profit opportunities for beginners in self-service packaging, contact packaging, gift wrapping. We guide you by step. Everything you need. Write today for FREE "10-STEP PACKAGING PROFIT PLAN", and full details. No salesman will call.

HOME PACKAGING CO., Dept. A-291, 807 Sunset Blvd., Los Angeles 12, Calif.

Authors!

Your book can be published, promoted, distributed by successful, reliable company. Fiction, non-fiction, poetry, scholarly, religious and even controversial manuscripts welcomed. Free Editorial Report. For Free Booklet write Vantage Press, Dept. HB, 120 W. 31 St., New York 1.

LEG SUFFERERS

Why continue to suffer without attempting to do something? Write today for New Booklet—"THE LIEPE METHODS FOR HOME USE." It tells about Varicose Ulcers and Open Leg Sores. Liepe Methods used while you walk. More than 60 years of success. Praised and endorsed by multitudes.

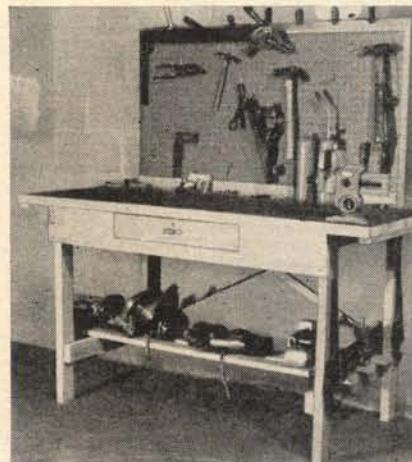
LIEPE METHODS, 3250 N. Green Bay Ave., Dept. C-27 Milwaukee 12, Wisconsin

**FREE
BOOKLET**

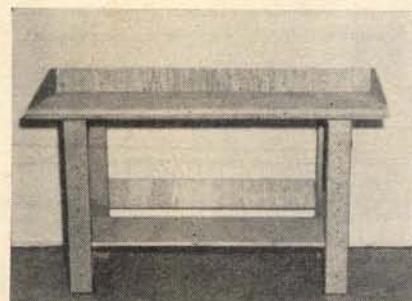
WORKBENCH ROUNDUP



Superb workmanship, two built-in vises are featured in this bench from Sweden. Craftools, Inc., 396 Broadway, New York 13, N.Y.



Top of this unit is 2-in. stock with hardboard cover. Bond Products, 100 Labadie St., Detroit 29, Michigan.



One sheet of 3/4-in. fir plywood is required for this bench made from steel legs. Pollard Bros. Mfg. Mo., 5504 Northwest Hwy, Chicago 30, Illinois.



Particle board is used for top of this bench that has steel legs and drawer. S. A. Hirsh Mfg. Co., Skokie, Illinois.

**BUY DIRECT
FROM FACTORY**

**SAVE
AS MUCH AS
80%**

POWER TOOLS

GUARANTEED TO DO THE WORK OF \$40, \$60, \$100 UNITS

- ★ RUGGED AND VERSATILE
- ★ PROFESSIONAL QUALITY
- ★ LIFETIME ENGINEERED

**8" TILT ARBOR
POWER SAW
KIT**
\$9.95
f.o.b. factory

Wt: 12 lbs.
If desired, for easier
work alignment: RIP
FENCE, \$3.50
add'l.



KIT INCLUDES:

- Complete blade carrying mechanism with depth of cut control
- Ground spindle with saw flanges
- Pre-oiled bearings
- Angle of tilt control
- Mitre gauge
- Motor mount assembly
- Attractive steel front control panel
- All needed brackets, screws nuts, bolts
- ABC assembly plans
- Patterns for sturdy base, massive 20" x 24" table
- Full instructions

UNCONDITIONAL 10 YR. GUARANTEE

**6" SWING
3-FT. LATHE**
\$9.85

f.o.b.
factory

Optional Faceplate
for turning bowls,
trays, lamp bases,
rosettes, etc.
\$2.50



Complete as shown
DOES THE WORK OF \$40 UNITS—
Sturdy all cast iron power tool turns wood or plastics with the precision and speed of machines selling for 4 times as much. Tubular steel bed, ball thrust cup center, spur center. T-Rest assembly, lever action tail stock. 2 speed pulley. Fits any motor.
**UNCONDITIONAL 10 YR.
GUARANTEE**

**4" BELT
BENCH SANDER**
\$19.95

F.O.B. Factory

Complete as shown.
Precision sanding
performance of \$80 units

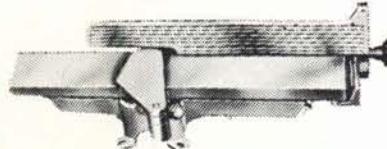


Perfect results every time for flat, curved and bevelled surfaces. Rugged cast iron construction with 4 1/4" x 10 3/4" supporting surface. 4" belt. Adjustable trackage . . . adjustable tension takes belts from 34" to 36" lengths. Smooth-running bearings are chatter-free. Bevel sanding guide adjusts to 60° angle. One sanding belt and 2" machine pulley included. Takes 1/4 hp. or larger motor.
UNCONDITIONAL 10-YEAR GUARANTEE.

**PROVED BY
MORE THAN
500,000
USERS**

**FULL 22" LONG, 4 1/8"
JOINTER-PLANER**
\$19.95

F.O.B.
Factory
Complete
as shown
100%
precision
ground
cast iron
and steel



DOES WORK OF \$60 UNITS

Now, at little more than a hand tool price, a guaranteed professional quality precision machine which does same work as skilled hand planing . . . much faster, more accurately. Make accurate glue joints; rabbeting cuts for doors, window frames, table drawers; square taper cuts for chair legs; accurate beveling.

• Precision ground cast iron tables, adjustable for depth of cut • Rigid cast iron base • New patent-pending design holds clearance between knives and tables

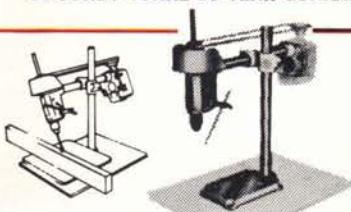
at any depth • Rabbett depth 3/8" • Hardened, ground high speed steel knives • Patent-pending fence adjustable to any position, any angle 0°-50° • Patent pending lift-off guard (nothing to loosen!) • Balanced steel cutter head.
UNCONDITIONAL 10-YEAR GUARANTEE.

10 DAY MONEY BACK GUARANTEE
You must be satisfied or money refunded.
AMERICAN MACHINE & TOOL COMPANY
Dept. WB-33, Royersford, Pa.

**32" RADIAL
DRILL PRESS**
\$29.95

F.O.B. Factory
1/2" Cap. Gear Chuck Inc.
Shipping Wt. 30 lbs.

DOES WORK
OF \$90
UNITS . . .
AND A
GREAT
DEAL MORE



Industrial quality precision machine with all features of standard drill press, many extras. Head raises, lowers. Greatly increased depth of throat. Can be pre-set to any angle or position for on-or-off table drilling . . . even horizontal drilling. All cast iron and steel. **UNCONDITIONAL 10
YEAR GUARANTEE**

MAIL COUPON TODAY!

American Machine & Tool Co., Dept. WB-33, Royersford, Pa.
Please send me the units checked. Payment in full enclosed
\$ or \$3 deposit each item enclosed, balance
C.O.D. I must be fully satisfied or will return unit within
10 days for full refund. No questions asked.

- | | |
|---|---|
| <input type="checkbox"/> Jointer-Planer \$19.95 | <input type="checkbox"/> 8" Saw Kit & Rip Fence \$13.45 |
| <input type="checkbox"/> 8" Saw Kit \$9.95 | <input type="checkbox"/> Lathe & Faceplate \$12.35 |
| <input type="checkbox"/> Lathe \$9.85 | <input type="checkbox"/> Drill Press \$29.95 |

4" Belt Bench Sander \$19.95

NAME . . .
ADDRESS . . .
CITY . . . ZONE . . . STATE . . .
(please print)

New Rubber Stamp Business Pays Beginners UP TO \$9.20 an hour

**START AT HOME IN SPARE TIME WITH
THIS LITTLE TABLE TOP MACHINE**

The multi-million dollar Rubber Stamp Business—once controlled by a few big companies—is now being taken over by small home operators—one in each community throughout the U. S. Men and women who have this inexpensive machine can turn out huge quantities of Rubber Stamps with special wording that buyers once were forced to order from big cities. Material costing only 27¢ makes a stamp that sells for \$1.80. The machine that does the work is simple and easy to operate and it turns out as many as six Rubber Stamps at a time each with different wording such as names, addresses, notices, stock numbers, prices and other "copy" needed by factories, offices and individuals. Working full capacity, it can earn as much as \$9.20 an hour for the operator! Now you can get into the big-pay business yourself with your own home as headquarters. You don't need any experience. We supply everything, including complete instructions and eight ways to get business coming in fast. We even help finance you. Cash in on the profitable Rubber Stamp business. Start making up to \$9.20 an hour from the very beginning.



TAKES UP
ONLY 2
SQUARE FEET
OF SPACE

**WE HELP
FINANCE YOUR
START IN BUSINESS**

• • • Read the complete and fascinating Rubber Stamp story in a big 110-page Book. The book is profusely illustrated with more than 100 pictures and photographs. *And you can read it for a full two weeks without risking a penny of your own money!*

NEW WARNER SUCCESS PLAN

Tells How to Build—Step by Step—to Big Profits and Personal Independence. Read This Plan for Two Weeks Entirely At My Risk!

In this amazing Plan you will find exact and detailed instructions for starting a Home Business in spare time—without giving up your present job and without risking the loss of a single pay check. The Warner Plan shows you—with pictures, photographs and drawings—just how to make Rubber Stamps just as good as those turned out by the big companies. It shows how to get orders without canvassing or house-to-house selling. It shows you how to expand, how to get others to work for you and how to be SURE of at least twice the money you make on your present job for a life of personal independence.

RUBBER STAMP DIVISION
1512 Jarvis Ave., Dept. R-6-C, Chicago 26, Ill.

But don't make any decision now. Read the Plan first—entirely at my risk. Then—after you have made a careful investigation—after you have talked things over with your family—only then do you decide what you want to do.

**ALL
FACTS
FREE**

Get full details which I'll send you FREE no salesman will call to urge you to buy anything. Mail coupon now—or just send a postcard—and I'll see that complete information including plan for financial help goes out to you by return mail.



**Here's what
the new
WARNER
PLAN
Tells You
about
Making Money**

1. HOW TO have fun now and at the same time provide for a secure and prosperous future.
2. HOW TO check the advantages of operating a Rubber Stamp Business in your own community.
3. HOW TO acquire a general knowledge of the business based on a brief history of the Rubber Stamp.
4. HOW TO visualize the scope of the Rubber Stamp market.
5. HOW TO make a Rubber Stamp (general outline).
6. HOW TO assess the value of Warner Equipment.
7. HOW TO get acquainted with the "Tools of your Trade."
8. HOW TO make a Rubber Stamp (Specific procedure).
9. HOW TO mount a vulcanized Rubber Stamp.
10. HOW TO make "Special" Rubber Stamps.
11. HOW TO cut plastic Matrix Board for the chase.
12. HOW TO get the right price for the Rubber stamps you make.
13. HOW TO price your complete Rubber Stamp Line.
14. HOW TO set up your workshop.
15. HOW TO get the most out of Warner's "Eight Tested Sources for Getting Business."
16. HOW TO get started on a cash outlay so small that you can get back your entire investment inside of two weeks.

YOUR NAME	ZONE	STATE
BUSINESS REPLY MAIL NO POSTAGE STAMP NECESSARY IF MAILED IN THE UNITED STATES		
Postage Will Be Paid By		
RUBBER STAMP DIVISION 1512 Jarvis Ave. Chicago 26, Illinois		
Dept. R-6-C		

Address: _____
City: _____
State: _____
Zip: _____

No
Stamp
Needed

Cut Coupon
on dotted
line. Fill in
name and
address.

Drop in Mail
Box. No Stamp
Needed